Paper
TRADE JOURNAL

AUG. 17, 1951

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HOW TO OBTAIN BETTER SUPERCALENDERING AT LOWER COST . . . See Page 20

HOW TO INCREASE FORK TRUCK HOISTING SPEEDS . . . See Page 30

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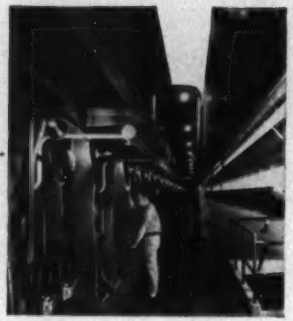

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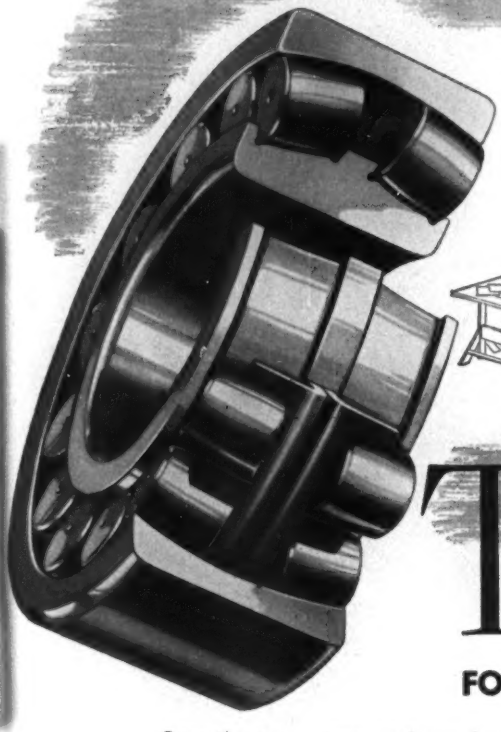

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Over the years, SKF engineers have worked closely with engineers and designers in every field of industry. This co-operation, this *team-work*, has helped industry minimize friction in all types of equipment from the smallest motors to the largest blooming mills. Whether you are designing new equipment or looking for efficient, economical replacement bearings, look confidently to SKF for expert, proved advice. Depend on SKF to help you put the right bearing in the right place. 7270-J

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Process Steam Maintained at 2 Pressures

by Worthington Turbine Generators

This is how Worthington and a Far West cellulose mill set up the steam supply for utmost efficiency and flexibility.

We combined a non-condensing single automatic extraction unit with a condensing double automatic extraction unit. The 7500-kw units operate in parallel and, in addition to supplying plant power, furnish steam at two pressures for process requirements.

Along with the advantages of efficient operation and low cost and ability to adjust to mill requirements, this mill benefits from the manufacturer's *unit responsibility*.

In this case, Worthington also furnished two 470-hp turbines to drive boiler feed pumps, two 452-hp turbines to drive induced-draft fans, two 146-hp turbines to drive forced-draft fans, and one 50-kw turbine-driven exciter set.

If you want proof *there's more worth in Worthington*, write Worthington Pump and Machinery Corporation, Steam Turbine Division, Wellsville, New York.

WORTHINGTON

STEAM TURBINE GENERATORS

T-1-14

Weyerhaeuser Reports efficient chemical and heat recovery with B&W Unit

The entire paper industry has watched with interest each step in the development, by Weyerhaeuser Timber Company, of a great, integrated wood-use center at Longview, Wash. B&W is especially gratified by Weyerhaeuser's report of satisfaction with the performance of their Kraft B&W Recovery Unit at this location.

A second B&W unit, of 150 ton capacity, was placed in service at Springfield, Ore., in December, 1950; recently, a third unit was ordered (for Longview) with a capacity of 300 tons.

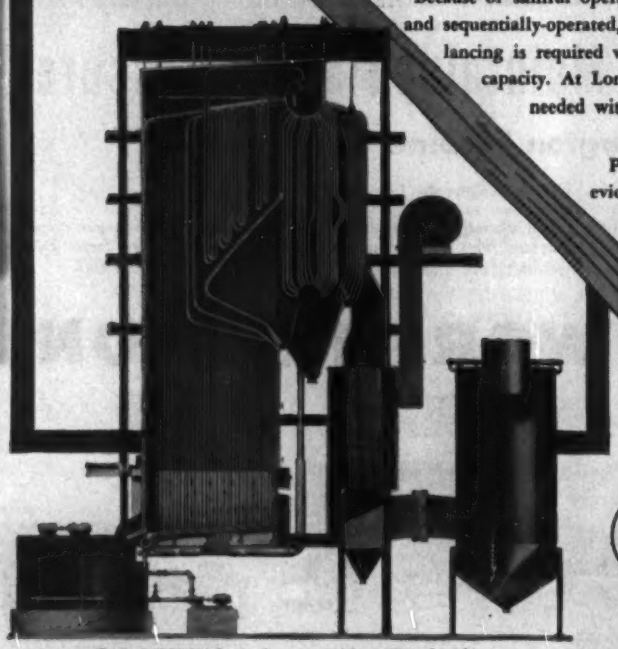
Operating at 650 psi, 700 F, the Longview installation delivers 120,000 lb. of steam per hr; chemical reduction is 96 per cent.

Because of skillful operation, combined with efficient boiler design and sequentially-operated, retractable soot blowers, no routine hand lancing is required while the Springfield unit operates at rated capacity. At Longview, a small amount of hand lancing is needed with the unit operating at 30 per cent above rated capacity.

Performance of this unit adds to the tangible evidence of B&W's prominence as designer and builder of modern chemical recovery equipment for the pulp and paper industry.

The Babcock & Wilcox Company,
85 Liberty St., New York 6, N. Y.

An Example of B&W Engineering for Economy



Typical B&W 2-Drum Recovery Unit equipped with B&W Cyclone Evaporator

BABCOCK & WILCOX

P-760

Paper TRADE JOURNAL

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NEXT WEEK

There's money to be made in water removal. L. E. Smith of Downingtown Mfg. Co. tells how in "How to Prolong the Life of Water Removal Equipment."

REMEMBER THESE DATES

SEPT. 6-8: American Pulp & Paper Mill Superintendents Assn., New York, Canadian Division, meeting at Saranac Inn, Saranac, N. Y.

SEPT. 14-15: American Pulp & Paper Mill Superintendents Assn., Northeastern Division, meeting at Poland Spring House, Poland Spring, Maine.

SEPT. 14-15: American Pulp & Paper Mill Superintendents Assn., Northwestern Division meeting at Northern Holiday Resort, Manistique, Mich.

SEPT. 16-19: American Institute of Chemical Engineers, Regional Meeting, French Lick, Ind.

SEPT. 20: American Pulp & Paper Mill Superintendents Assn., Michigan Division, Fall Meeting at Hotel Harris, Kalamazoo, Mich.

SEPT. 26-28: Alkaline Pulping Conference of the Technical Assn. of the Pulp and Paper Industry at the John Marshall Hotel, Richmond, Va.

OCT. 10-12: American Pulp & Paper Mill Superintendents Assn., Southern and Southeastern Div'n., George Washington Hotel, Jacksonville, Fla.

OCT. 15-18: 6th Engineering Conference, Technical Assn. of Pulp and Paper Industry, General Oglethorpe Hotel, Wilmington Island, Savannah, Ga.

OCT. 29-31: National Foreign Trade Convention, Waldorf Astoria, New York City.

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SUN LUBRICANTS AND SERVICE HELP KEEP OPERATIONS EFFICIENT

Five years ago, when this mill was being erected, the management called in a Sun representative and asked him to make a study of the oil and grease requirements. His recommendations were accepted. Ever since, the mill has enjoyed nothing but trouble-free operation, thanks largely to these Sun "Job Proved" lubricants. Sun makes periodic checks of the mill's operations in order to keep recommendations abreast of any changes. In this way, Sun prevents lubrication trouble before it can start. To the mill, complete reliance upon Sun service has meant continuous, profitable operations, simplified purchasing, small inventories of oils and greases.

A good example of the kind of service Sun can furnish your mill is help in converting drier roll bearings from block grease to oil. Such conversion of older machines results in less downtime, lower maintenance, lower power consumption and higher output. If you would like a free folder on the subject, just write to Department PT8.

BECAUSE IT DOESN'T SQUEEZE OUT under heavy tooth loading, Sun 897 Grease minimizes wear on the drive side of the paper machine. It doesn't drip off the gears, needs fewer applications, and is easily used without the preheating so many gear shields require.

DESPITE THE VARYING CONDITIONS encountered on this paper machine—some bearings constantly washed with water and others heated to temperatures over 300° F—Sun lubricants have always given outstanding service. Time out for repairs is practically unheard of.

HOLDING WEAR TO A MINIMUM on the heavily loaded thrust bearings of a Jordan is a tough lubrication assignment. The Sun "Job Proved" oil used in this Jordan has the film strength to stand up to the loads, the proper viscosity to lubricate well at high speeds.

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SUNOCO

Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, August 15, 1951.

Today's dull August market is a test-tube study in trends. To the bullish elements which dominate industry thinking, the quiet is not as deep as is usual in midsummer; buying pressure is at a minimum but regular customer volume buying is steady, and the regular Fall pickup is a certainty.

Bearish tendencies come mostly from those who are trying to analyze the long-term trend beyond Defense orders, in the face of heavy stocks which printers are holding for their customers or which load all available warehouse space; with the industry producing at record peaks; and new tremendous new capacity on the way.

June's record production which brought the industry's total for the year's six months to 13,710,000 tons, or over two millions in excess of 1950's period, is reported in *Table 1.* If raw materials are adequate, the APPA sees 1951 production at over 27 million tons.

Fine Papers Bullish

Fine paper houses report that they could do much better than today's business if they had stock to meet demand. Some concede that part of the demand could be coming from a few domestic accounts who are shopping the town for unavailable items or from foreign customers who are trying to place. Telephone calls have been cut about one-half, it is estimated. Some houses see a demand developing from industries which are converting to Defense production and which require stock for instruction sheets, manuals and forms.

Wholesaler Stocks Low

Without exception, wholesaler inventories are reported at minimum level. Dealers tell of the need for getting some stock items on their floor, and report that mills are beginning to schedule such items. It is going to be some time to their way of thinking before the mills give them sufficient stock to rebuild inventories to healthy level.

Book Stock Tight

The market continues tight for all uncoated book stock and for most machine coateds. Publication papers and conversion coateds are weaker, and some volume of machine coateds is reported available. For the most part, however, No. 1's and No. 2's of machine coateds are very tight. Sulfites of all types are reported short, though an offering of sulfite bond was reported to find no takers.

Higher grades of rag contents are easier to soft; 25 percent is extremely tight.

Cover is reported short in wanted specialties though easy in some items. Offset and duplicators are particularly short, as is E-F Book.

In text-book stock, a few quota deferments were reported. In anticipation of curtailments in college enrollments, publishers are cautious about taking on new lines. *Novel* stock is in strong demand, particularly for the Pocket Book editions wanted for Service men and women. Large lithographers and printers are not busy; a few have not placed their September quotas and are not crowding for stock. Small printers are quiet.

Book Prices Rise

Indicative of the strength of demand for book paper is the lift of approximately $10 a ton for many grades and by several mills, effective immediately. The rises which were approved under CPR 22 for July 1 were frozen by the 30-day freeze and are now released. Largely they come from non-integrated producers, and cover increased costs of woodpulps.

On a weaker market, such increases in price would be a risky competition with the product of large integrated mills which to date have not lifted their prices.

To press time, resale prices to cover the lifts had not been released. Indications of the trend are reported on *Prices* page.

Some Bears in Paperboards

To that part of the paperboard industry which serves soft-goods packers and the retail trade, the market has bearish aspects and is getting careful study.

Boxmaker inventory position is giving these board producers great concern. Business is said to be so poor that cutbacks to three- and five-day weeks may develop into complete shutdowns for a couple of weeks.

Buyers are said to be restricting purchases in expectancy of a price break, reasoning that a drop in board prices must follow the sharp dips in waste paper prices. Producers, however, see no such break in price developing—without a price order. They are looking for a Fall market stability—which is slow in developing.

This being a market where "the music goes round and round and comes out here," it is difficult to see how these board mills can hold their position in view of the continued weakness in waste paper prices and agglomerating supply, which can improve only as the mills get into full production again and boxmakers begin to buy. Retail business may rebound quickly they believe.

Production figures for paperboards reported on this page show a large gain in new orders. Involved is the first of the month container orders and customer allotments. The record therefore must be discounted to that extent.

WORLD TRADE AND TARIFFS

New GATT Members

Seven more countries have been given approval to become members of GATT (The General Agreement on Tariffs and Trade — the international pact): Austria, West Germany, Korea, Peru, The Philippines, Turkey, and Uruguay. The group has until October 21 to sign the Protocol which contains the concessions they negotiated at the Torquay tariff conference and which become effective for each country 30 days after formal initialing of the document.

U. S. tariff negotiations were completed with all but two of the seven, the Philippines and Uruguay. A separate 1946 agreement governs tariff relations betewen the Philippines and the U. S.

Norway's Tariff Cuts

Tariff cuts negotiated by Norway and the U. S. went into effect on August 2. For list of paper items affected, see issue of June 1, 1951.

—E.P.N.

TABLE I
June Paper Production

	Production Tons	% Changes in Daily Avg. Production: June 1951 Compared with May 1951	June 1951 Compared with June 1950
A. Printing Papers	285,000	— 3.4	+ 4.4
B. Fine Papers	113,000	— 0.4	+ 9.2
C. Coarse Papers	290,000	— 0.7	— 2.1
D. Tissue Papers	123,000	— 2.5	+13.4
E. Miscellaneous Papers	48,000	— 3.3	+30.4
F. Total, Groups A-E	859,000	— 1.9	+ 5.0
Total Paper, Newsprint, Building Paper, Paperboard, and Building Board	1,271,806		

Source: APPA Monthly Statistical Summary.
June, 1951 had one less working day than May and the same number as June, 1950.

Paperboard Production (Tons)*

	Aug. 4 1951	July 28 1951	Aug. 5 1950
Production	225,232	231,788	219,000
New Orders	356,939	181,072	334,123
Unfilled Orders	664,707	537,591	637,177

* Source: NPA.

Ductrol equipped jordans.

the magic touch that improves the sheet

Ductrol equipped HYDRAFINER false used on jordans to assure sensitive remote control of plug setting and protect both plug and shell bars against failure.

There's nothing anywhere to compare with the "soft" magic touch of HYDRAFINER action to bring out the best in a fiber.

Just the right amount of hydration—just the right amount of fibrillation and fraying is obtained when HYDRAFINERS are employed.

Whether used singly, several in parallel or in series—with or without cycling tanks—the best way to build and conserve the strength inherent in the fiber is to put it through HYDRAFINERS.

Jordans! Oh yes! Jordan sparingly, just enough to assure control on the machine.

The two together in proper proportion—spell balanced refining—give the magic touch that improves the sheet.

SHARTLE BROS. MACHINE CO.

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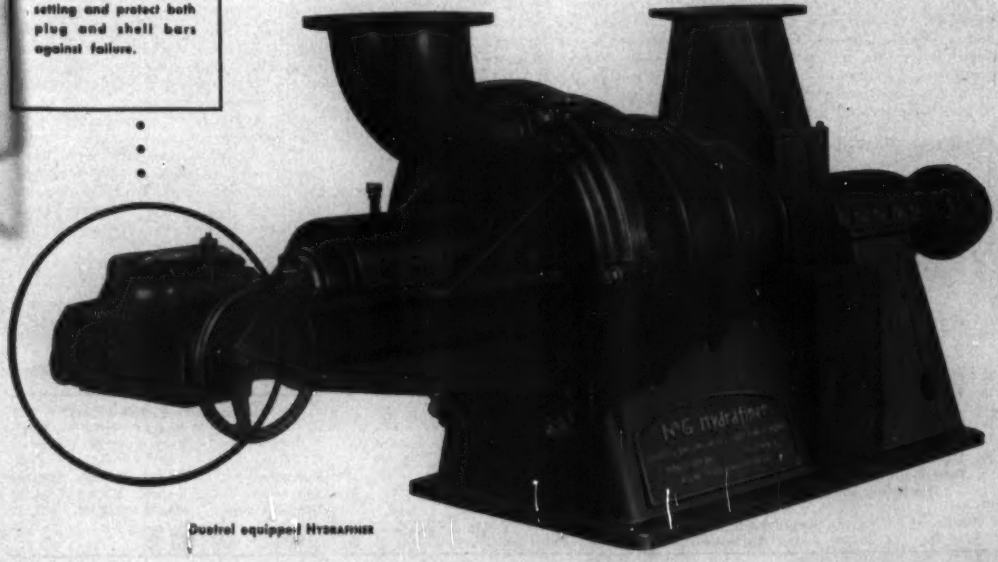
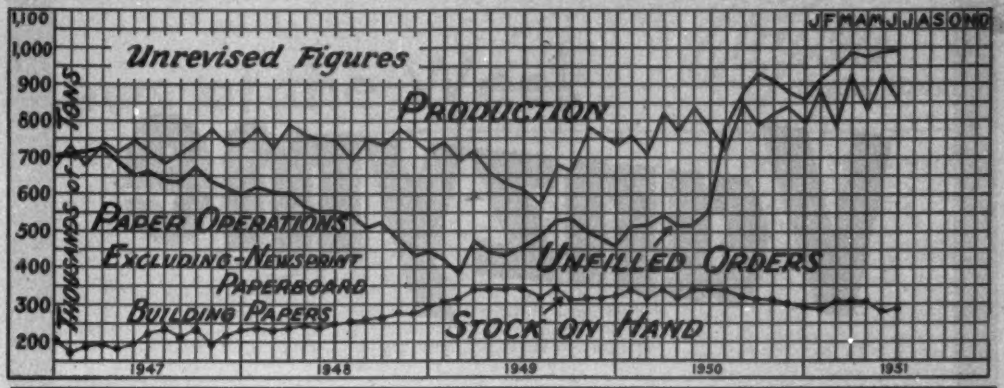
Southern Sales Office: 937 Coventry Road, Decatur, Georgia
Associate: THE ALEXANDER FLECK LIMITED, Ottawa, Canada
Subsidiary: B-C INTERNATIONAL, LTD., Greener House 66/68 Haymarket, London, S.W.1, England



Ductrol equipped HYDRAFINER



Brief of Important Figures

Source		WEEK ENDING Aug. 4, '51	July 7, '51	Aug. 5, '50
APPA	Paper Production Percent Capacity[6]	100.7	62.6	99.4
	Unbl. Kraft Paper Production Percent	100.0	72.1	99.1
NPA	Paperboard Operating Ratio Percent Inch Hours	94	62	98
		June 1951	**May 1951x**	**June 1950**
APPA	Paper Production[6] (Except Newsprint and Building Papers) ..... Tons	859,000	909,757	788,500
	New Orders ..... Tons	861,000	887,883	812,800
	Unfilled Orders ..... Tons	995,000	997,925	565,565
	Shipments ..... Tons	861,000	902,729	786,300
		July 1951	**June 1951**	**July 1950**
NPA	Paperboard Production ..... Tons	815,547	977,214	745,255
	New Orders ..... Tons	814,729	873,807	890,890
	Unfilled Orders ..... Tons	537,591	547,963	524,391
	Our Customers Activities Index[1]	**Latest Mo.[6]**	**Previous Mo.[6]**	**Year Ago[6]**
FRS	Manufactures Total Index	233	232	203
	Durable Mfg. Index	278	278	232
	Nondurable Mfg. Index	196	195	180
	Chemical Products Index	297	297	255
	Mfg. Food Products Index	159	153	157
	Printing and Publishing Index	181	188	169
ODC	Magazine Advg.-Printer's Ink Index	355	338	324
	Retail Sales Combined Adjusted Index	347.6	343.3	315.0
	Drug Index	229.8	231.4	215.9
	General Merchandise Group Index	334.0	326.8	306.6
	Grocery and Combination Index	442.5	437.7	379.1
	Prices Index			
BLS	Consumers Price Index[1]	185.4	184.6	169.3
	Wholesale all Commodities[5]	182.8	183.5	155.9
	Wholesale Foods[5]	187.2	185.7	159.9
	Commodities other than Farm Products and Foods[5]	171.5	172.4	147.6
	Wholesale Pulp and Paper[5]	196.2	196.2	155.4
	Purchasing Power of Dollar, Consumers Prices[1]	53.9	54.2	59.1
	General Activity Index			
FRS	Mfg. Production-Worker Payroll	429.4	433.3	348.0
	Unemployment Compensation Initial Claims (M)	908	983	1,367
	Miscellaneous Carloadings-Thousands of Cars	1,582	1,580	1,423
	Electric Output (Million KW hr.)	35,136	34,431	31,486
PTJ	Average 32 P & P Common Stocks as of Aug. 11	$39.00	$38.24	$31.26

[1] 1935-39=100 Unadjusted Index
[5] 1926=100
[6] New 4-7 day basis.
[6] For Five Weeks.
[6] For details see APPA Monthly Statistical Summary—June 1951 Estimated Figures
[6] Latest Month Available on Request
x Revised figures.

Vanzyme

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News of the Week

Paper TRADE JOURNAL

ANOTHER MILL FOR GEORGIA

Another $20 million paper plant is planned for Georgia. The purchase of 500 acres of land near Jesup and the proposed construction of a paper board plant, expected eventually to represent an investment of from $15 million to $20 million was announced August 6 by A. A. Voit, president of the Mengel Co., Louisville, and Winthrop Allen, paper buyer for the company.

The announcement was made by the two company officials from the office of William Murphy, chairman of the board of the Citizens and Southern National Bank, Atlanta, Ga. They had just returned from Jesup where they concluded negotiations for the lands with its private owners. The initial unit of the plant, which will employ about 400, will make paper board for five other plants which manufacture corrugated boxes.

BIRD & SON TO EXPAND

PITTSBURGH, Pa. — Design and construction to increase capacity of Bird & Son's Shreveport, La. felt mill from 60 to 120 tons per day will be handled by the Rust Engineering Co., Pittsburgh.

The mill was completed early last year and provisions were made during construction for future expansion.

The project involves the addition of paper pulping and wood pulping equipment, and 12 new driers in addition to the 27 now in use; and installation of a new 30,000 p.p.h. boiler. Some press section changes will be made on the felt machine, and other equipment and appurtenances, largely duplicating existing equipment, will be installed.

Construction will begin sometime this fall.

USE AMMONIA-BASE PROCESS

WISCONSIN RAPIDS, Wis. — In the hope of finding a better way to cut stream pollution, one of Wisconsin's largest sulphite mills has adopted a different method of pulping and will give this a long-term tryout.

Consolidated Water Power & Paper Co. reports that, effective at once, all sulphite pulp made at its Wisconsin Rapids mill will be manufactured by the ammonium-base sulphite process, instead of by the calcium-base sulphite process generally used in this state. The company emphasizes that this shift is purely experimental. No date has been set for shifting back to calcium. This will be determined when the test has run a while longer, but it is now expected to continue for several weeks.

The company experimentally operated the same mill on ammonium-base for about two weeks last March to explore some questions preliminary to the present run. It has also made two brief tests at its Interlake mill in Appleton. These trials demonstrated to the company that higher costs of digester maintenance are one expectable result.

MOSINEE IMPROVEMENTS

An expansion program has been started which will boost production some 20 percent for Mosinee Paper Mills.

The project will include the installation of a 5000 Kva turbogenerator, a new wood preparation unit, and rebuilding of a paper machine.

The program will be completed by the end of 1952.

BUYS OUT NORTH WEST PULP

MONTREAL, Que.—M. J. Foley, secretary of New Pacific Coal & Oils, Ltd., reportedly arranged to acquire all shares of North Western Pulp & Power Ltd., holder of pulpwood cutting rights on approximately 2000 square miles of crown land in Alberta. A groundwood pulp mill and power plant is planned near Yates, Alta., 125 miles northeast of Edmonton, with a capacity of 200 tons per day. Construction must start by May 1952.

CROSSETT GETS CN

On August 6 Crossett Lumber Co. was granted a $93,255 certificate of necessity for kraft paper.

Letter To Editor

August 7, 1951

Mr. Henry J. Perry, Editor
Paper Trade Journal
15 West 47th Street
New York 19, N. Y.

Dear Mr. Perry:

Your boxed comment on "Cost Plus Guaranteed Profit" deserves the attention of every thinking citizen. We are coasting down hill so fast that it isn't funny.

Please keep up the good work.

Very truly yours,
Lowe Paper Company
David V. Lowe
President

WEST VIRGINIA PRICE CHANGE

With the removal of General Overriding Regulation 13, West Virginia Pulp and Paper Co. advised its customers of a general adjustment in prices, effective August 1, 1951, complying with Ceiling Price Regulation 22.

The company had originally filed data, prerequisite to price adjustments, under CPR 22 last June. Action thereon was delayed, however, by the subsequent imposition of GOR 13.

The adjusted prices, which generally raise the company's rates to those of competitors, mean increases of $5 per ton for liner board; from $5 to $10 per ton for kraft paper grades; and an average of about $7 per ton for white paper grades.

In complying with the ceiling price regulation, the paper company's adjusted price schedule includes some rollbacks in specialty pulp products.

EDDY STORAGE BLDG. FIRE

THREE RIVERS, Mich. — The Eddy Paper Corp. storage building was ravaged by flames for two hours August 6, causing $100,000 damage. Office Manager Frank Warner stated the 160 by 283 foot structure was "full to the brim" of stored paper stock. The basement and first floor were free of fire, as flames raged through the second story. The roof collapsed about an hour after discovery of the noon-day fire.

Fire started at one end of the building and firemen were able to fight it from all sides. Twelve workmen were in the vicinity at the time the blaze was discovered, but none were able to tell how it started.

Company officials stated they hoped to have the plant in full operation by August 7 or 8, or when enough paper stock is on hand to start the machines.

PAPER OUTPUT GAINS

WIESBADEN, Germany — Paper and paperboard production in Western Germany hit a postwar high of 158,880 metric tons in June, despite critical shortages of coal and cellulose, latest official statistics show. May, with 140,250 tons, recorded a sharp dip from the previous postwar record of 153,066 set in April.

Most of the gain was in wrapping and packaging grades; the printing and writing paper situation showed no real improvement, and newsprint at 13,600 tons was appreciably behind the January, 1950, figure of 13,740.

Paper Industry Takes Wallop

A survey completed today of pulp and paper machinery manufacturers shows that serious production cutbacks will be made necessary by the low allocation of controlled materials given in the third quarter and by the further cuts indicated by NPA for the fourth quarter.

Industry spokesmen were shaken by NPA reports that fourth quarter allocations would be less than the third quarter allotments made to this industry.

The NPA plan of cutting third quarter allocations uniformly to determine fourth quarter allowables is unrealistic and discriminatory to pulp and paper machinery builders, industry spokesmen pointed out. In making the third quarter allocation the NPA topside used a slide rule without consulting either the industry or commodity divisions of NPA or the trade. As a result pulp and paper machinery builders received in the third quarter one of the lowest allocations of any industry. When this was pointed out to NPA by industry representatives, the explanation given was that the third quarter allocation was an interim action which had to be taken quickly leaving no time for review or checking for reasonableness. But it came as a surprise to industry members that fourth quarter allocations would blindly follow the third quarter allocation which NPA admitted was a hasty, stop gap measure.

Unless NPA corrects the third quarter allocation by making adequate allowance for the fourth quarter, industry spokesmen made clear that a serious shutdown of machinery building will be required.

This shut down will seriously affect current production of newsprint, paper and paperboard, and will set back the expansion program developed to meet essential defense and civilian requirements.

KETCHIKAN'S LOGGING PROBLEM

VANCOUVER, B. C.—Qualified foresters, who have inspected the Alcan area within which the Powell River Co. may build a pulp mill, say every potential for a major forest industry is present at the new town of Kitimat, B. C.

They estimate there is about 1,500 million board feet of timber in a 300-square-mile area to be flooded when Aluminum Co. of Canada backs up the waters of a chain of interior lakes in the Tweedsmuir Park area, some 400 miles northeast of Vancouver.

To remove the timber within four years, which is estimated as the flooding period, is an immense salvage operation requiring an average removal of 400 million board feet a year. Size of the operation may be measured by comparing it with Canadian Western Lumber Co., one of the largest on the West Coast, which logs about 200 million board feet a year.

Foresters estimate the average timber stand in the wooded area runs more than 8000 board feet per acre needed for economical logging. Some of the area is estimated to contain as much as 30,000 board feet per acre.

The salvage logging could well prove a low-cost operation, it was pointed out. For rising waters would float out logs, and a sawmill at the dam site is indicated. A pulp mill at Kitimat to utilize chips and smaller logs is observed as a logical project.

CUSTOMS COURT CASES

A long series of new cases before United States Customs officials for action is reported by Warren B. Bullock, Manager of the Import Committee of the American Paper Industry. Among the cases are the following:

Corrugating stock imported into Massachusetts from Canada claimed to be dutiable at the rate for kraft wrapping paper.

Christmas wrapping papers from Sweden imported at Portland, Oregon, under investigation as to proper classification.

Seven tons of paper from Canada imported at Buffalo as glassine paper, described as diaphane paper, valued at 75 cents per pound, under investigation both as to classification and correct dutiable value.

Hard sized paper from Belgium, imported at New York, claimed to be dutiable as printing paper, under investigation as to possible classification as writing paper.

Wet machine board imported from Canada, claimed to be dutiable as wet machine fibre board, under investigation as to possible classification as shoe board at a higher duty rate.

Plywood backing paper, impregnated with formaldehyde, being investigated to determine proper tariff classification.

Suit case board from Sweden being studied as to possible classification as embossed, surface coated paperboard.

Paper intended for asphalting for sheathing purposes under study as to proper tariff classification.

(Canadian National Railways photo)

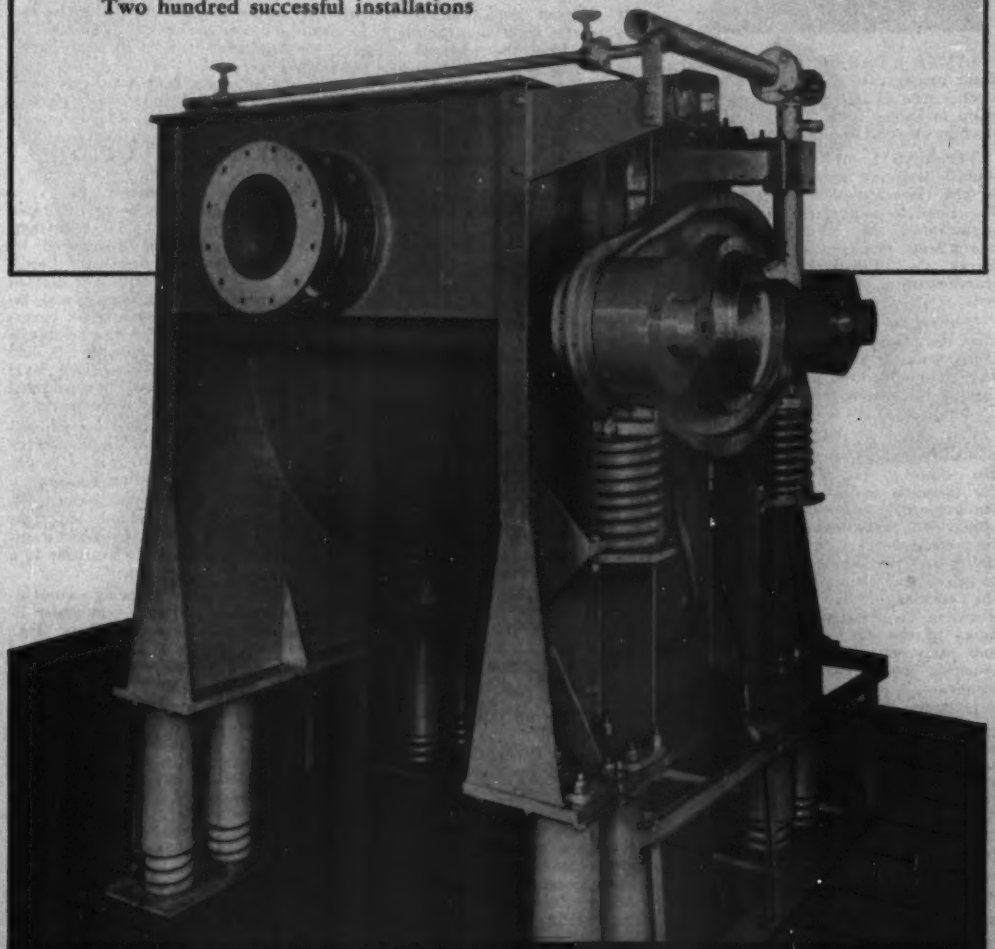
The Greater Portland (Me.) Chamber of Commerce and Port of Portland Committee, were hosts recently to a group of New York woodpulp importers, to better acquaint them with the Port of Portland facilities. Participating in the event were representatives of the Grand Trunk-Canadian National Railways and Boston & Maine-Maine Central Railway. Pictured at Grand Central Terminal, New York, before departure are (left to right): A. J. Fox, Traffic Manager, Castle & Overton; Walter L. Scott, Import and Export Rep., CNR, New York; James E. McNally, Assistant Traffic Manager, Bulkley Dunton Co., New York; William E. Neidlinger, Pulp Sales Corp.; Bertram H. Thome, Foreign Freight Agent, CNR, New York; J. J. Santry, Traffic Manager, Eloff Hansson Inc.; Stacey Bender, Jr., Traffic Manager, Pulp Sales Corp.; Frank Venn, Traffic Manager, Castle & Overton, Inc.; Harold J. Lanney, Traffic Manager, Pagel Horton Co.; Victor J. Tario, General Agent, Boston & Maine-Maine Central Railroad, New York; Edgar Boeck, Traffic Manager, Nordious Co.; Richard F. Kist, Perkins Goodwin Co.; and R. E. Hanssen, Assistant Traffic Manager, Stora Kopparberg Co.

FOR HIGH CONSISTENCY, HIGH CAPACITY SCREENING

This is It!

The BIRD VIBROTOR SCREEN employs high frequency, circular vibration to deliver 50 to 80 tons of well screened stock per day. Consistency is 1.3 to 1.5%. Power is ⅓ HP per ton, or less.

Two hundred successful installations here and abroad testify to the effectiveness of the Vibrotor Screen. Are you fully acquainted with its possibilities for screening *your* stock? If not, better get in touch with Screening Headquarters —



BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS

PEOPLES

JAMES J. PARKS, has been named plant manager of National Container Corp.'s new $1 million corrugated box plant in Dallas, Tex. He will be production chief of the operation.

THOMAS C. WINANS has been named assistant advertising manager of the Hammermill Paper Co., Erie, Pa. Prior to joining the Hammermill organization, Mr. Winans had been advertising manager of the A. M. Byers Co., Pittsburgh, well-known manufacturers of iron and steel products.

HAROLD B. WILSON, who has been the Hammermill assistant advertising manager since 1938, will devote his full time to sales work as assistant district sales manager of the Central Territory.

J. E. MONAGHAN has been appointed training consultant for Bemis Bro. Bag Co. He will be responsible for planning and conducting various training and information programs which will aid Bemis employees in the efficient performance of their duties and in gaining a fuller knowledge of the history and policies of the company. Mr. Monaghan will work in cooperation with the managers of the 45 Bemis plants, mills and sales offices located throughout America which employ over 10,000 people.

JOSEPH G. TURNER will be located in the Chicago sales office of the Mead Sales Co. He will be sales representative for both Wheelwright and Disco papers in the Middle West. Prior to joining the Mead organization, Mr. Turner spent 17 years with District of Columbia Paper Mills, Inc., Washington, D. C., as sales representative and New York office manager.

H. F. CARPENTER, assistant manager of the Carthage, New York, division of the Crown Zellerbach Corp., is being transferred to the Port Angeles Division as assistant manager. This fills the position that was left open at the time T. B. Hargreaves was appointed manager of the Elk Falls Co., Ltd.

RAY E. SMITH, formerly in the Research and Development Division of The American Viscose Corp., Marcus Hook, Pa., has recently become associated with the Aquex Development & Sales Corp. of Whippany, N.J.

EDWIN L. HOLLOWAY was named Midwestern Division manager and ROBERT R. HOPPER assistant to the vice-president of Olin Products Co., Inc., of New York City.

Mr. Holloway, whose headquarters will be in Chicago, joins Olin Products after handling advertising sales for *Ladies Home Journal* in Chicago. Previously, he was industrial sales manager in Chicago for Dennison Manufacturing Co.

Mr. Hopper is a veteran of 10 years' service with Olin, coming to his new post from the research department of Olin Industries' Western Cartridge Co.

ARTHUR L. BROWN, for the past seventeen years a member of the Nekoosa-Edwards Paper Co. sales staff in the middle west, will retire effective September 1 and will become associated with the Atwood Paper Co., 222 N. Des Plaines street, Chicago, in a sales and executive capacity.

Mr. Brown has a background of 45 years in the paper industry, beginning as a salesman with The Whitaker Paper Co. in Cincinnati in 1906 and becoming a director of the firm before leaving in 1916. From 1916 to 1932 he was associated with Diem & Wing Paper Co., Cincinnati, as a director and treasurer of the company. In 1933 and 1934 Mr. Brown was western sales manager of Oxford Paper Co. in their Chicago office, and in September, 1934, became associated with Nekoosa-Edwards, serving for a time as manager of fine paper sales until general sales control was moved to the main office at Port Edwards, Wis.

BRIAN W. POWER has been appointed assistant treasurer of The E. B. Eddy Co. He joined the company as internal auditor in September, 1950.

CHARLES S. BARTON, president of Rice Barton Corp., Worcester, Mass., and ELI DE VRIES, vice-president of Paper Corp. of United States, sailed for Europe on August 10th, on the Niew Amsterdam.

Mr. Barton and Mr. de Vries will visit a large number of the European Paper Mills in connection with the paper machinery agency and the Trist, Coating System for which Paper Corp. of United States is also the exclusive foreign selling agents.

Mr. Barton and Mr. de Vries will make their headquarters in European Offices of Paper Corp., 480 Prinseengracht, Amsterdam, Holland. From there, they will cover all of the European countries, the British Isles and will spend considerable time in the Scandinavian countries.

FRANCIS POPE, director of industrial relations for the past 21 years with the Mead Corp., has been appointed chairman of the Industrial Relations Committee of the American Paper and Pulp Assn. In addition, W. A. J. SHANER, labor relations director of Hammermill Paper Co., has been designated to fill the newly created post of vice-chairman of the Committee. These changes followed the resignation of A. S. ANDERSON as Chairman after four years of service in that capacity.

Mr. Anderson, who will remain active on the Committee, continuing unbroken his membership which extends back to the early days of the Committee's organization, has a lengthy background in the field of personnel and industrial relations. A member of the management team of the Champion Paper and Fibre Co. for the past seventeen years, he has been assistant director, General Industrial Relations for that company since 1942.

NEW PAPER USES

Daylight Fluorescent Papers

A new specialty paper, decorated with the popular DAY-GLO daylight fluorescent colors, is announced by Starbuck Manufacturing Inc., Leeds, Mass. It is said to be especially adapted to gift wrapping, packaging and labels, and may be used for box coverings and linings, interior displays, greeting card tip-ons and inserts, and other similar applications. This vivid ornamented stock will be marketed under the DAY-GLO trade mark.

The colors in this new paper product, according to Dan Sargent, president, are up to four times as bright as the brightest of ordinary colors.

A limited range of patterns and colors is now in production, but it is stated that these new fluorescent-decorated papers will be available in a wide variety of designs.

This new paper is being manufactured by the Starbuck firm under license from Switzer Brothers, Inc., Cleveland, owners of almost a hundred U. S. patents and patent applications which relate in various ways to the phenomenon of daylight fluorescence.

OPEN BOSTON WAREHOUSE

The opening of a Boston warehouse was announced recently by Stevens Nelson-Hobson Miller, Inc. The company's headquarters are located at 27 Arch street, Boston, Mass.

Stevens Nelson-Hobson Miller, Inc. is a newly formed organization that developed from an association last October between Stevens Nelson Paper Corp. and the Hobson Miller Paper Co., Inc. Under that arrangement, the sales force of each firm sells all the papers handled by both houses. The new jointly-owned organization plans to distribute throughout New England, from their Boston warehouse, most of the lines of the two parent houses in New York.

Meet them HALF WAY

Selection of the proper felts for a paper or board machine generally requires a compromise between quantity of tonnage and quality of finish.

Right now your customer may be calling for more tonnage with only incidental consideration for finish.

The representative of the manufacturers will recommend Hamilton Felts that assure a happy compromise —plenty of tonnage with better finish than you expect.

From the thinnest tissue to the heaviest board there is a Hamilton Felt that will do your work better, cheaper and faster.

Hamilton Felts

MIAMI WOOLEN MILLS

Established 1858

SHULER & BENNINGHOFEN, HAMILTON, OHIO

GOVERNMENT GOSPEL

Must File CMP-4B Applications

WASHINGTON, D. C.—Chemical and related products manufacturers were cautioned this week by NPA to file immediately for fourth quarter allotments of any steel, copper or aluminum used by them as raw material or components. The CMP 4-B applications are needed to establish allotments for the various users of controlled materials, the agency stated.

The Product Assignment Directory issued by NPA lists the "B" products within jurisdiction of the Chemical Division, and there is also the official CMP Class B product list, of which the second edition was issued July 1.

A new product code is being established for chemicals and chemical products not listed separately in the product list, the NPA reported.

Fuller Description for Export License

WASHINGTON, D. C.—Paper exporters were warned this week by Office of International Trade to comply more fully with descriptive requirements in export license applications.

"The OIT is receiving an increasing number of applications for licenses to export fine paper, special industrial paper and paperboard for electrical insulating, which contain inadequate commodity descriptions," the agency announced.

As such applications must necessarily be returned, it was pointed out, delayed processing of applications and inconvenience to the trade result.

"Exporters are reminded that applications must show thickness of the paper and describe the commodity in sufficient detail to enable the OIT to accurately identify the specific items proposed for export."

Dollar and Cents Newsprint Increase

Members of the Newsprint Industry Advisory Committee at their second meeting with OPS officials discussed provisions of a proposed tailored regulation for their industry and recommended that it provide a flat dollars and cents increase for all manufacturers over their newsprint prices under the General Ceiling Price Regulation to take care of increases in costs since GCPR freeze.

Committeemen said this would permit the industry to maintain its customary price structure, including freight allowances and differentials for super newsprint and newsprint made from waste.

It would also permit continuation of so-called "fringe" production which is helping to relieve the current newsprint shortage. This includes newsprint made on obsolete machinery, machinery intended for other types of production, or under other circumstances where production of marginal newsprint became profitable only under inducement of higher prices.

Committeemen said that fixing dollars and cents ceilings (as contrasted to dollars and cents increase over GCPR ceilings) would eliminate fringe production unless individual exceptions were made, and introduce other complications in their price structures. They said zone pricing as promulgated under OPA was impractical now and that they would prefer to continue their individual freight charge practices.

It was disclosed that a number of American newsprint manufacturers have established ceilings under the Manufacturers' General Ceiling Price Regulation, CPR 22, of $116 per ton, which is equal to the price of Canadian newsprint.

A number of American manufacturers showed costs under CPR 22 entitling them to ceilings higher than $116, but indicated they would maintain their prices at that level, in competition with Canadian prices.

The question was discussed whether ceilings should be imposed on the price that American consumers could pay, which would in effect be a ceiling price on imported newsprint. Committeemen said American publishers were in a better position to advise OPS on this subject than American newsprint manufacturers. They pointed out, however, that because of volume and lower costs, Canadian prices had always determined the price obtained for newsprint by American manufacturers.

Members of the committee are: C. B. Stanwood, Great Northern Paper Co.; C. E. Young, Crown Zellerbach Corp.; R. W. Wortham, Jr., Southland Paper Mills, Inc.; A. G. Wakeman, Coosa River Newsprint Co.; John L. Hobson, St. Croix Paper Co.; R. O. Sternberger, Pejepscot Paper Co.; and Dwight L. Stocker, Michigan Paper Co.

Liberalize Laboratories Priorities

WASHINGTON, D. C.—NPA has liberalized its laboratories priorities aid order, M-71, so that hereafter, each institution, company or other concern operating more than one laboratory, may treat these separately in application for priorities assistance. Formerly requests had to be grouped.

The concerns still have the option of asking separate consideration for each of their laboratories, or lumping their requests under one head. M-71 is intended to enable laboratories to obtain controlled materials or other products needed in important research work, through self-certification of delivery orders.

Mexico Seeks Canadian Newsprint

OTTAWA—Antonia Martinez Baez, Minister of Economics of Mexico, accompanied by two newspaper publishers from that country, has come to Canada in order to see if Canadian newsprint shipments to his country cannot be increased sharply to avoid a serious shortage in Mexico.

This newsprint shortage is growing more acute and it is said to be affecting the drive in Mexico to wipe out illiteracy.

The Mexican group is understood to have interviewed governmental officials here for help in getting newsprint from Canadian producers.

Continuous Form Paper Shortage

WASHINGTON, D. C.—Difficulties in obtaining the proper kinds of paper has been reported to NPA by manufacturers of continuous forms, such as sued in business tabulating machines.

Manufacturers of these forms said they had been reluctant to submit bids for Government orders since they have been unable to obtain sufficient paper of grades meeting Government specifications. There is a serious shortage of registered bond paper, with only a relatively few companies producing it, NPA was advised.

NPA spokesmen promised that government will acquire paper stocks to fill Government orders if necessary and will seek cooperation of Federal procurement offices in submitting alternate specifications if the original order for continuous forms cannot be filled.

NPA at the same time revealed to the manufacturers, in a meeting last week, that it is contemplating advisability of a proposed order which would compel a fixed percentage set-aside of continuous form paper production to fill defense-rated orders.

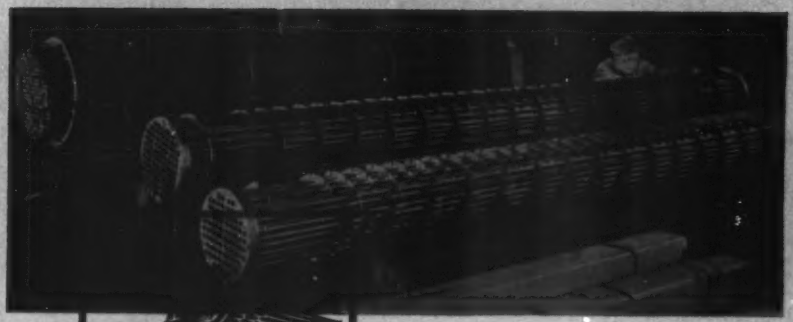
International Allocation Off

Contrary to expectation the International Raw Materials Conference has announced that it will not allocate kraft and dissolving pulps. It has been found that there is only a 1.3 percent shortage in kraft.

Income Tax Ruling

OTTAWA—In a ruling of interest to the paper trade, the Income Tax Appeal Board of Canada has held that a United States company was not liable for Canadian income tax on its earnings when it did not have a "permanent establishment" in Canada.

The Canadian Government had assessed the U. S. company for tax on its Canadian profits, though the U. S. company had only been listed in the telephone directory in Canada and the calls had only been taken by a telephone answering service as well as referred to an employe who operated from his own residence. However, the employe had no authority to quote prices or close deals, this being done from the company's head office in the U. S. Company did not maintain a stock of merchandise in Canada.



A. O. SMITH designs with TRENTWELD

When A. O. Smith, big name in steam and heat transfer equipment recently designed and built a heat exchanger unit for Socony-Vacuum — TRENTWELD Stainless Steel tubing was used throughout. This heat exchanger unit for use in the petroleum industry is another example of how TRENTWELD is preferred by designers for products where stainless steel tubing fit the bill.

And here's why: TRENTWELD is the product of tube specialists. That means you're assured uniform quality and specifications of manufacture that meet your most exacting needs. Then too, TRENTWELD is available in a full range of sizes—$\frac{1}{16}$" to 36" in diameter, in all grades and finishes. When the job requires stainless steel tubing, check with us.

TRENTWELD STAINLESS STEEL TUBING

TRENT TUBE COMPANY, GENERAL SALES OFFICES, EAST TROY, WISCONSIN

(Subsidiary of Crucible Steel Company of America)

Direction 1 to M-72

Consumers of Northern European chemical pulp will now be allowed to increase their inventories of those pulps. The maximum amount allowed will be 120 days based on 100 percent depending on these sources. The following formula and table give the allowable inventory.

Percentages of consumption of market chemical wood pulp estimated for first 6 months of 1952		Allowable inventory in terms of days' supply		
North American	Northern European	North American	Northern European	Total
0	100	0	120	120
10	90	4½	108	112½
20	80	9	96	105
30	70	13½	84	97½
40	60	18	72	90
50	50	22½	60	82½
60	40	27	48	75
70	30	31½	36	67½
80	20	36	24	60
90	10	40½	12	52½
100	0	45	0	45

The pulps must be received before March 1, 1952.

Motor Mfrs. Ask Increased Allotments

Manufacturers will be able to produce sufficient electric motors for defense and defense-supporting needs only if their future allotments of controlled materials are increased, the 1-500 Horsepower Motor and Generator Industry Advisory Committee said at a meeting of the NPA.

Eighty-five to 90 percent of the orders they have on hand are defense-rated, and the number of rated orders they are asked to accept is steadily increasing, industry representatives said.

On the other hand, they pointed out, materials allotments for electric motor manufacturers during the fourth quarter are expected to total approximately the same as in the third quarter.

They said electric motor manufacturers will have to reschedule the orders on their books. They added that delivery dates may be delayed an average of two or three months.

The committee cited a survey showing that while electrical equipment represented two percent of American industrial equipment produced in 1939, this percentage now has grown to four percent.

To Study Newsprint Supply

OTTAWA — The report from Washington that a subcommittee of the U. S. House of Representatives may find it necessary to study newsprint supply problems by coming to Canada later this year has brought the reaction in the industry that such a study would be welcomed.

It is understood here that, if such a committee came to Canada, the U.S. group would receive all possible assistance to help in the probe of newsprint supply problems.

Correction Export Pricing

Officials of the OPS report a clerical error was made in stating the effective date in Ceiling Price Regulation 61, covering export sales. The effective date of "August 6, 1951" stated in the regulation was a clerical error and should have read "August 26, 1951."

Military Packaging Course

A Joint Military Packaging Course has been established by the Army at Rossford Ordnance Depot, Toledo, Ohio. The course, which is continuous, with classes of two weeks' duration starting each week, will train Army, Navy, Air Force and Marine Corps personnel and certain personnel from industry at the foremen or supervisory level in the basic methods of military preservation, packaging, packing and marking. Spaces have been reserved in each class for firms holding military contracts, with first priority given to prime or subcontractors supplying equipment packed for overseas shipment. Applications from interested firms should be directed to Officer-in-Charge, Joint Military Packaging Course, Rossford Ordnance Depot, Toledo, Ohio. Civilian firms must furnish at least one of their current military contract numbers and a brief description of the material or equipment supplied under contract.

Rates of Return (After Taxes) on Stockholders' Investment, 1940, 1947, 1948, 1949 and 1950
520 Identical Corporations in 25 Selected Industries
(Adjusted to Exclude Reported Accelerated Depreciation on Postwar Facilities)

Industry	Number of Corporations	Rate of Return After Taxes 1940 (per cent)	1947 (per cent)	1948 (per cent)	1949 (per cent)	1950 (per cent)
Dairy Products	18	9.4	13.2	12.4	14.5	13.3
Bakery Products	26	8.1	18.3	18.5	16.1	14.9
Bread	21	7.6	16.1	19.8	15.3	14.6
Biscuits & Crackers	5	8.7	20.1	17.5	16.8	15.2
Tobacco Products	20	13.8	11.6	13.2	13.3	12.1
Cigarettes	8	14.7	11.9	13.7	14.0	12.7
Cigars	9	8.7	10.2	8.6	6.7	6.2
Plug, Smoking & Snuff	3	10.0	8.0	11.2	10.0	9.5
Floor Covering	18	8.1	15.7	17.0	8.8	12.5
Wool Carpets & Rugs	13	8.6	15.9	16.3	8.4	13.5
Linoleum & Felt Base	5	7.6	13.5	15.7	9.2	11.3
Paper & Allied Products	103	9.6	21.1	18.2	12.1	16.1
Industrial Chemicals (inc. Rayon)	35	13.8	17.3	18.9	17.7	23.1
Industrial Chemicals	28	14.4	17.1	18.6	18.4	23.7
Rayon	7	8.6	18.7	21.4	12.1	17.9
Soap, Cleaning & Polishing Preparations	8	17.5	22.9	19.2	6.8	18.2
Petroleum Refining	38	6.7	14.5	19.4	12.6	14.3
Tires & Inner Tubes	15	9.8	15.3	13.8	9.0	17.1
Flat Glass; Glassware (Pressed or Blown)	11	11.7	15.3	15.1	18.3	21.1
Abrasives, Asbestos, & Misc. Non-metallic Mineral Products	16	13.9	15.8	17.3	14.3	19.7
Blast Furnaces, Steel Works, Rolling Mills	34	8.1	11.8	14.3	11.6	14.9
Primary Smelting & Refining Non-ferrous Metals	19	10.6	14.2	15.0	8.2	13.6
Tin Cans & Other Tinware	6	9.4	10.3	11.5	9.9	11.9
Engines & Turbines	14	13.2	6.3	17.6	10.8	13.5
Office & Store Machines & Devices	15	13.2	24.9	24.0	17.8	19.1
Electrical Machinery, Equip. & Supplies	64	14.2	19.8	18.8	15.9	21.2
Motor Vehicles & Motor Vehicle Equip.	57	17.1	19.7	24.3	26.8	29.6
Motor Vehicles	17	17.3	19.7	25.1	29.4	31.7
Motor Vehicle Equipment	40	16.1	19.5	21.0	16.2	20.7
Marches	3	8.3	11.6	9.0	6.9	17.0
	520					

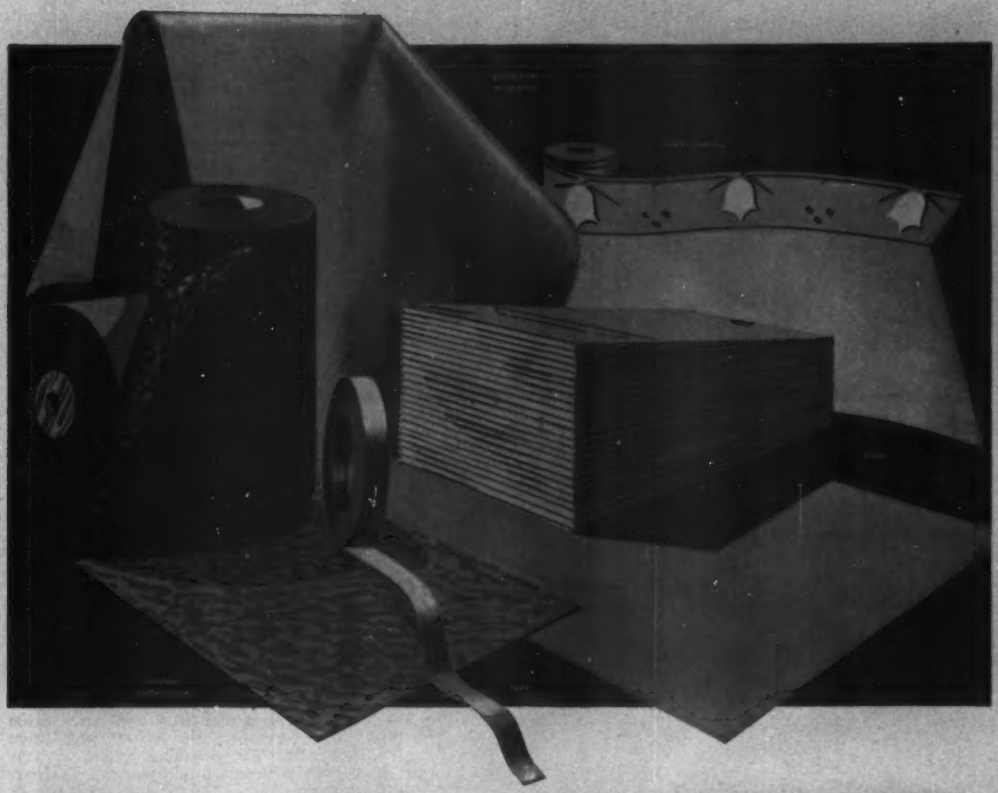
Source: Federal Trade Commission.

Rates of return shown, for the most part computed on the average investment as of the beginning and end of each year. The stockholders' investment consisted of the capital stock outstanding, paid-in or other capital surplus, earned surplus, minority interest in capital stock and surplus, and surplus reserves, less reported appreciation. The net income represents the profit after deducting all normal and regular costs and expenses and Federal income taxes.

News about

B. F. Goodrich Chemical Company

raw materials



HYCAR puts paper to work in new ways!

YOU get new ideas of what paper can do when you improve it with Hycar. New sales, too. For paper impregnated with Hycar latex becomes softer yet stronger. It gets a cloth-like feel. Sheets drape smoothly. Tear and wet strength, and resistance to absorption are improved.

And for Hycar-improved paper there are many profitable uses. For example—protective wrapping, bags, gasketing, tape backing, imitation leather bases, shelf covering.

Hycar latex is easy, safe and economical to use. It may be added to paper before or after sheet formation. No inflammable or dangerous solvents are needed. No costly recovery system or vulcanization equipment is required.

Hycar is highly versatile—has other valuable uses. It is used for modifying other resins; for making phenolics tough rather than brittle. It is non-migrating and non-volatile, ideal for permanently plasticizing vinyl resins.

Still more uses! With Hycar-based adhesives you can permanently bond paper, wood, leather, aluminum foil and vinyl films to themselves as well as to other resins.

At present, demand for Hycar materials exceeds supply. But limited quantities are available for development work. For technical bulletins, please write Dept. HJ-10, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco.

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

Hycar
Reg. U.S. Pat. Off.
American Rubber

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON organic colors

Figure 1—1800 fpm supercalender, finishing machine-coated book papers. 400 hp, 575/1150 rpm supercalender motor with speed reducer at left. 40 hp, 300/1800 rpm windup motor in foreground with speed reducer obscured by speed and nip pressure monitors. 20 hp, 300/1800 rpm unwind braking generator equipped with V-belt drive. Motors are enclosed and separately forced ventilated.

Supercalender Drives

Charles D. Beck[1]

The supercalender has an important part in the finishing of certain kinds of paper. However, it is inherently a "batch" operation and not nearly so efficient a producer as a continuous running paper machine. This is due to the lost time required to change rolls and the loss in production caused by slowing down for splices and defects.

New techniques of paper machine coating and higher paper machine speeds now require that supercalender speeds be raised to approximately 2000 fpm and operating efficiently is, therefore, even more important. More powerful and more easily controlled drives, with reliability equal to that of the paper machine, have made these higher speed supercalenders a reality. This article describes operating requirements which are necessary for all supercalenders, the types of drives and their operation, and discusses power requirements.

The Supercalender

As many of our readers know, the supercalender consists of a vertical stack of chilled iron and composition (cotton or paper) rolls, as shown in *Figure 2*. The top and bottom rolls are chilled iron and are larger in diameter than the intermediate rolls to prevent deflection under the high nip pressures.

Many modern supercalenders are designed for operating pressures of 2000 lbs. per lineal inch of width at the bottom (king) roll nip. The pressure resulting from roll weight is supplemented by hydraulic or pneumatic loading, applied to the top roll bearings, with suitable controls to enable the operator to set accurately the desired nip pressure. The intermediate rolls are alternately paper or cotton followed by chilled iron, except in stacks set up to finish both sides of the sheet in a single pass through the calender. When both sides of the sheet are to be finished, two composition rolls will be run together to form a reversal point. For finishing special types of paper, more or less composition rolls are sometimes used. The entire stack is driven from the bottom roll. Between the nips, the sheet is passed over fly rolls to help prevent draw wrinkles, and blow cutting, the latter caused by the entrapment of steam or air between a calender roll and the sheet. Fly rolls also reduce the possibility of a slightly marked composition roll from defacing the sheet, because they prevent the mark from nipping the sheet twice in the same place.

The smooth glossy finish imparted to a sheet of paper by the supercalender is produced by the burnishing or "frictioning" action of the metal rolls resulting from the deformation or creep of the softer composition rolls. The polishing action and the finish imparted to a particular sheet is

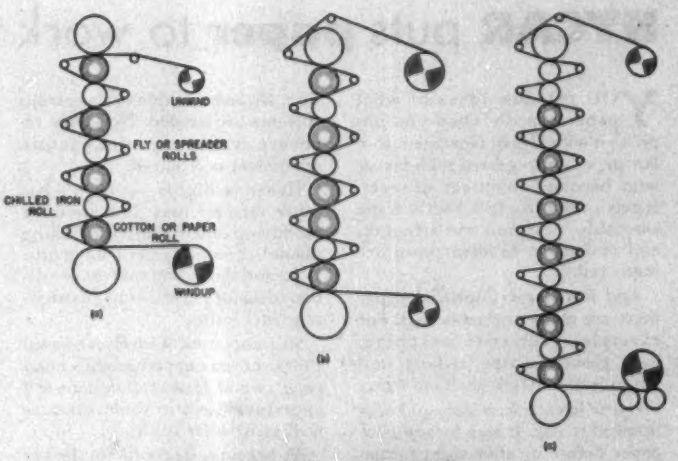


FIG. 2 (a) SINGLE FINISHING SUPERCALENDER
(b) DOUBLE FINISHING SUPERCALENDER FOR FINISHING BOTH SIDES OF THE SHEET
(c) GLASSINE SUPERCALENDER WITH TWO DRUM (SURFACE TYPE) WINDUP

[1] Paper & Textile Div., General Electric Co.

in NIALK* chemicals . . . processed to
assure highest efficiency and uniformity in
pulp and paper manufacture.

NIALK | *Liquid Chlorine*
Caustic Soda

*Trade-mark

NIAGARA ALKALI COMPANY
60 East 42nd Street, New York 17, N. Y.

Liquid Chlorine • Caustic Potash • Carbonate of Potash • Paradichlorobenzene • Caustic Soda • TRICHLOROethylene
NIAGATHAL* (Tetrachloro Phthalic Anhydride)

primarily dependent upon the nip pressure, the operating speed and the resiliency of the composition rolls. However, the temperature and moisture content of the sheet also affect the finish of the supercalendered paper. Most chilled iron intermediate rolls are bored for use with either steam or cooling water, when necessary to control the heat in the stack. Steam showers are often used on the sheet near the top of the stack to control the moisture in the sheet.

The supercalendering action is not unlike that of household ironing where heat, moisture, friction and pressure are employed to enhance the appearance of the product.

The windup and unwind on a modern supercalender are usually of the center or shaft driven type with the paper wound on cores which are mounted in suitable stands with antifriction bearings. Sheet tension is controlled by driving or braking the roll from a shaft extension on the core. Surface type windups, *Figure 2C*, are occasionally used when it is desirable to wind shipping rolls on the supercalender. However, the latter is seldom done on high production supercalenders because the cost of making splices and removing bad spots and substandard paper on the supercalender usually more than offsets the cost of rewinding.

Drive Requirements

Rolls of paper from the paper machine are rewound before supercalendering to provide a continuous sheet, thus eliminating the need for stopping to make splices necessitated by any breaks which may have occurred on the paper machine. During the preliminary rewinding, the edges of the sheets are also trimmed to provide rolls of straight even edges to reduce insofar as possible any tendency for breaks or the marking of a composition roll.

Small edge cracks are always a problem because they result in points of high stress concentration when tension is applied to the sheet and increase materially the possibility of sheet breaks.

Non-uniform caliper, formation or coating as well as breaks in the stack or on the unwind side of the stack can often result in a pleated wrinkling of the sheet, thus causing several thicknesses of paper to pass through the roll nips and often marking the composition rolls.

Light surface marking can often be tolerated or can be run out with the paper removed. However, heavy marks must be removed by hand sanding with a rig similar to a conventional floor sander, a time consuming operation dreaded by all supercalender operators. Severely marked rolls must be removed from the stack and turned down in a lathe. For this reason the operator is constantly on the alert for any danger of wrinkling, particularly

Figure 3—100 inch, 1200 fpm supercalender with revolving air operated windup and unwind. Supercalender is driven by a 200 hp, 690/1150 rpm motor. Windup and unwind powered by 15 and 20 hp motors, rated 250/1500 rpm, respectively. All electrical and mechanical controls and instrumentation mounted on conveniently arranged operator's control desk.

that resulting from breaks, because they are usually most destructive. The drive cannot prevent wrinkles or breaks but a steady running speed, smooth acceleration and deceleration and a uniform tension in the sheet can eliminate those potential sources of trouble.

Threading

Threading is another important phase of the supercalendering process because it is a non-productive, time consuming operation. The stack need not be hand threaded after each roll as the new roll can be pasted to the tail end of the sheet from the preceding roll. Nevertheless on an average, hand threading after a break and when changing rolls can consume as much as 10 percent of the calendering time.

In most instances threading must be carefully done by first passing a narrow strip of paper through the center of the stack maintaining at all times tight wrinkle-free draws to avoid marking the composition intermediate rolls. Threading is sometimes done with the aid of threading sticks to reduce the hazard. More often, particularly on high production stacks, threading is done entirely by hand to speed up the operation because tighter wrinkle-free draws can be more quickly obtained. Nip guards provide limited but not complete protection. Thus, aside from being time consuming, hand threading is a hazardous operation and makes a low, *steady* calender speed of approximately 30 to 50 fpm so essential in reducing the non-productive supervalendering time.

The calender shown in *Figure 3* is rather unique because the more dangerous and time consuming conventional threading techniques are seldom necessary. The motor located at the top of the stack is used in conjunction with the conventional loading mechanisms to quickly raise and lower the rolls into contact with each other, i.e., open or close the stack.

For threading, the calender is stopped and the rolls are separated to appreciable distances. The sheet is then easily and safely passed through the entire stack and carefully secured on the windup core to insure snug, straight, wrinkle-free draws. Tension is applied to the sheet by the windup and unwind. Lowering of the rolls, closing the stack, complete the threading operation. With this type of operation a low threading speed is not so critical, but still highly desirable, to facilitate inspection of the draws and to insure smooth coordinated starting of the calender, windup and unwind.

Acceleration and Deceleration

Smooth steady rates of acceleration and deceleration are important to avoid sudden changes in sheet tension which aggravate the possibilities of breaks, particularly ahead of or on the unwind side of the stack. Uniform but not necessarily constant tention is equally important on the windup but for another reason, namely, to produce uniformly hard (or soft) rolls with straight edges which will permit sustained high speed operation and facilitate subsequent slitting and rewinding of the rolls for shipment. Good performance of the supercalender, windup and unwind drives, under changing (transient) conditions, particularly during acceperation and deceleration, is essential because frequent slowdowns to a moderately low speed are required to effectively pass edge cracks, slime holes and splices that might cause breaks, as well as slowdowns or stops to cut out wrinkles.

The frequency of breaks and the mechanical condition of the finished rolls of paper are affected most by the quality of the sheet as it is received from the paper machine or the coating machine and also the mechanical condition of the supercalender stack. However, the drive characteristics and performance are of major importance.

Emergency Stopping

Quick emergency stops of the calender, as fast as the capacity of the drive permits, can reduce the amount of damage to the composition rolls when a wrinkle develops or a break occurs. If a wad or a bad wrinkle enters the stack some rolls will always be marked but rapid stopping can often prevent all of them from being damaged. On emergency stop the windup and unwind cannot decelerate and stop consistently at the same rate as the calender. However, this is of little importance since the sheet is always broken or damaged anyway.

Power Requirements

The power requirements of super-

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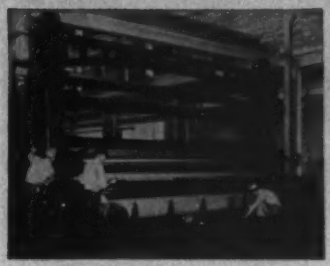

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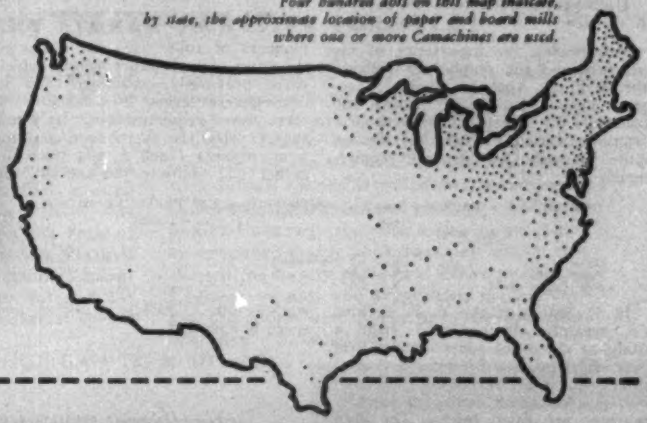

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calenders are more difficult to arbitrarily establish than for most paper making and processing machines because of the many variables involved. However, power constants have been developed from experience and have found frequent use.

The following constants were offered to the paper industry as a guide for estimating power requirements by the electrical manufacturers back in the 1930s. These constants were obtained from load readings taken on many existing supercalenders. In a general way, they reflect the predominant three variables, composition of the filled rolls, nip pressure and paper weight and they have proved adequate for the selection of drive sizes.

$$\text{Drive HP} = \frac{K \times \text{SPEED (FPM)} \times \text{FACE* (in inches)}}{100} \quad (1)$$

* FACE is usually taken as the length of the composition rolls.

The constant K is selected from the tabulation below for an average supercalender with anti-friction bearings, usually assumed to have ten rolls. Normal nip pressures were assumed to be below 1600 or 1800 lbs. per lineal inch at the bottom roll nip and high pressures above those general levels.

Paper Composition Rolls

Normal pressures — less than 70 lb. paper — K = 0.110 (1a)
High pressures — less than 70 lb. paper — K = 0.150 (1b)

Cotton Composition Rolls

Normal pressure — less than 70 lb. paper — K = 0.140 (1c)
Normal pressure — 70 to 80 lb. paper — K = 0.182 (1d)
High pressure — 70 to 80 lb. paper — K = 0.214 (1e)

Recognizing the importance of nip pressure and the number of rolls in the stack, the Appleton Machine Company developed a simple formula and constants for supercalenders with anti-friction bearings which has proven quite accurate for general requirements.

$$\text{Drive HP} = K \times \frac{\text{FACE (in inches)}}{1000} \times \frac{\text{SPEED(FPM)}}{2000} \times \frac{\text{NIP PRESSURE (\#/inch)}}{\text{x No. Rolls}} \quad (2)$$

Glassine	K = 1.0 (minimum)	(2a)
Paper Rolls	K = 1.25	(2b)
Soft Cotton Rolls	K = 2.0	(2c)

B. P. Astley of the B. F. Perkins Co. recently obtained and made a study of numerous supercalender load data. The general formulas and constants which he developed therefrom for supercalenders with anti-friction bearings are listed below. The data was taken on conventional stacks having approximately 10 rolls, operating on average paper weights, i.e., 70 lbs. or less. Most of the calenders studied had the windups mechanically driven from the calender and no attempt was made to factor the windup load out since it rendered conservative results which were on the safe side for the selection of drives.

Paper Composition Rolls

$$\text{Drive HP} = \frac{\text{NIP PRESSURE (\#/inch)} \times \text{FACE(in inches)} \times \text{SPEED (FPM)}}{1,380,000} \quad (3a)$$

Cotton Composition Rolls

$$\text{Drive HP} = \frac{\text{NIP PRESSURE (\#/inch)} \times \text{FACE(in inches)} \times \text{SPEED (FPM)}}{770,000} \quad (3b)$$

H. W. Rogers of the General Electric Co. made extensive tests on six supercalenders, each in equally good mechanical condition and all equipped with anti-friction bearings. The results of his investigation on those six supercalenders are shown graphically on *Figures 4 and 5* and are on a per nip basis, taking into account the numbers of rolls. He also evaluated the effect of basis paper weight, which when previously considered was in more general terms. To determine the total power requirements it is necessary to select the appropriate constant from *Figures 4 and 5*, add them together and multiply the sum by the stack width (FACE) in inches and speed in fpm/100.

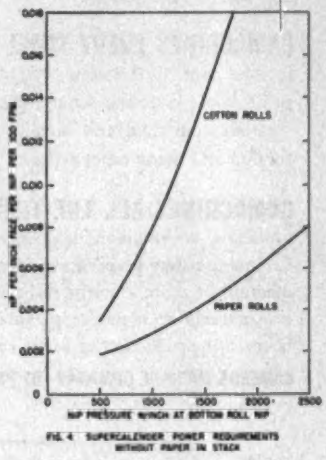

FIG. 4 SUPERCALENDER POWER REQUIREMENTS WITHOUT PAPER IN STACK

$$\text{Drive HP} = (K_1 + K_2) \times \frac{\text{FACE (in inches)} \times \text{SPEED (FPM)}}{100} \quad (4)$$

K_1 — Calender constant from *Figure 4*.
K_2 — Paper constant from *Figure 5*.

All of the above basic formulas reduced to a constant of HP/100 FPM/inch of FACE/nip for a 10-roll supercalender are superimposed on *Figures 6 and 7*, for paper and cotton rolls respectively. Inspection of these curves shows that all methods indicate essentially the same drive HP requirements for the average supercalender application. This is particularly significant because these curves represent data taken on several hundred supercalenders by many interested individuals and are thus representative of the average machine requirements. Likewise substantial deviations, where some variables were not taken into account, are readily accountable.

The change in calender load for cotton rolls as contrasted to paper rolls is approximately 2 or 3 to 1, from *Figure 4*. At the present time there is no simple method of accurately predicting power requirements in between these rather generally defined classifications of composition rolls.

It is recognized that the calender load is proportional to the amount by which the chilled iron rolls deform the composition rolls, i.e., soft cotton rolls compress more than hard paper rolls. However, to date no specific correlation has been established between composition roll hardness or resiliency, as measured by a "Shore Durometer" or a "Scleroscope," and the power required to drive the supercalender.

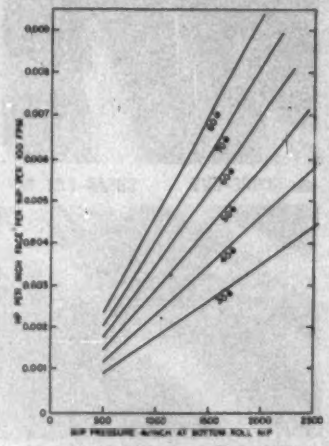

FIG. 5 ADDITIONAL SUPERCALENDER POWER REQUIREMENTS DUE ONLY TO PAPER BEING CALENDERED (PAPER WEIGHT ON 3000 SQ.FT. BASIS)

One theoretical method, of classifying composition rolls, for the purpose of determining power require-

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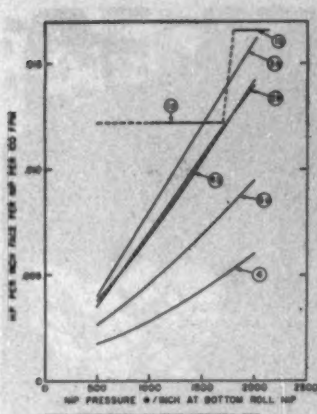


FIG 6 COMPARISON OF FOUR METHODS FOR DETERMINING SUPERCALENDER POWER REQUIREMENTS FOR PAPER ROLLS. ALL POWER CONSTANTS REDUCED TO COMMON BASE. CIRCLED IDENTIFICATION REFERS TO FORMULA GIVEN IN TEXT. (4) IS FOR NO PAPER IN STACK, (4a) IS FOR 30 # PAPER, AND (4b) IS FOR 70 # PAPER.

ments might be to measure the identation made in the roll by a chilled iron roll at a specified applied pressure, factoring in the effect of roll diameters and circumferential length of nip contact. Continued study of the characteristics of composition rolls could be highly beneficial because the selection of the right size drive becomes more important from an economical standpoint as the supercalender speeds and widths go up.

Power data for sleeve bearing supercalenders has not been listed because the requirements can vary appreciably depending upon the bearing design and the materials used. Also, sleeve bearings are seldom applied on modern supercalenders requiring frequent starting and extremely low threading speeds.

Power for Windup and Unwind Drives

Motor sizes for shaft driven windups (centerwind) and unwinds can be accurately matched to the actual requirements, providing the operating sheet tension can be established. Friction and windage losses of the rools and stands usually need not be considered in arriving at the motor HP, except for small drives because the friction must be kept low for best operation. When considered, an efficiency factor of approximately 96 percent normally will be adequate for the selection of drive capacity.

On the unwind a standard motor is usually used, but operated as a braking generator. Thus, the unwind motor HP rating can be conservatively selected by calculating the required sheet tension HP and reducing it by the efficiency of the motor, which usually can be taken as 88 percent.

Windup motor rating

$$HP = \frac{\text{MAX. SHEET TENSION (\#/inch width)} \times \text{SHEET width (inches)} \times \text{SPEED (FPM)}}{33{,}000 \times 0.96}$$

Unwind braking generator, motor rating

$$HP = \frac{0.88 \times 0.96 \times \text{MAX. SHEET TENSION (\#/inch width)} \times \text{SHEET WIDTH} = \text{SPEED (FPM)}}{33{,}000}$$

When a conventional two drum surface winder as shown in *Figure 2c*, equipped with slitters and rider roll is used as a windup the friction load should be added to the tension horsepower when determining the power requirements. Although the friction load is dependent upon machine arrangement and design it can usually be conservatively taken as:

$$\text{Friction HP} = 0.00004 \times \text{WIDTH (in in hes)} \times \text{SPEED (FPM)}$$

Constant Torque and Constant Horsepower Drives

Both constant torque and constant horsepower drives are used for supercalender applications. A constant torque or constant horsepower drive is one which is capable of operating on a constant torque or a constant horsepower output, respectively, throughout its speed range. The variations of torque and horsepower with speed which these two types of drives are capable of producing are shown in Figure 9 for d-c drives which have the same horsepower rating at top speed and which require the same motor generator set. The motor generator set is required to supply adjustable voltage d-c power to the drive motor from an a-c power system.

Speed adjustment is obtained on a constant torque drive by changing only the voltage applied to the motor armature. Speed adjustment on a constant horsepower drive is obtained by chang ing the applied armature voltage over the lower part of the speed range and by changing the motor field voltage while maintaining constant armature voltage, over the upper part of the speed range.

The choice of drive depends upon the operating requirements of a particular supercalendar. In general, constant torque drives are less costly where operation will be limited to a narrow range of grade and finishes. They are also applicable whenever it is economical to power for the maximum load to be encountered on a constant torque basis. However, when a steady consistent threading speed of 30 to 40 fpm is essential, on supercalenders exceeding 1000 fpm top speed, it is often desirable to take advantage of some motor field range to insure best operation at the low threading speeds, because the applied armature voltage is higher.

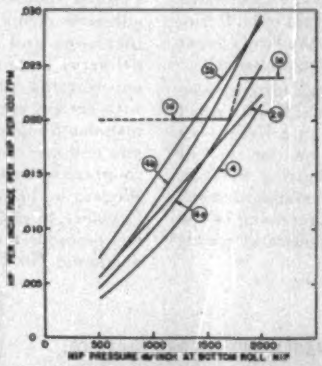


FIG 7 COMPARISON OF FOUR METHODS FOR DETERMINING SUPERCALENDER POWER REQUIREMENTS FOR COTTON ROLLS. ALL POWER CONSTANTS REDUCED TO COMMON BASE. CIRCLED IDENTIFICATION REFERS TO FORMULA GIVEN IN TEXT. 4 IS FOR NO PAPER IN STACK, 4a IS FOR 30# PAPER, AND 4b IS FOR 70# PAPER.

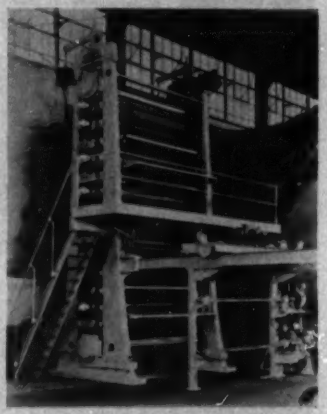
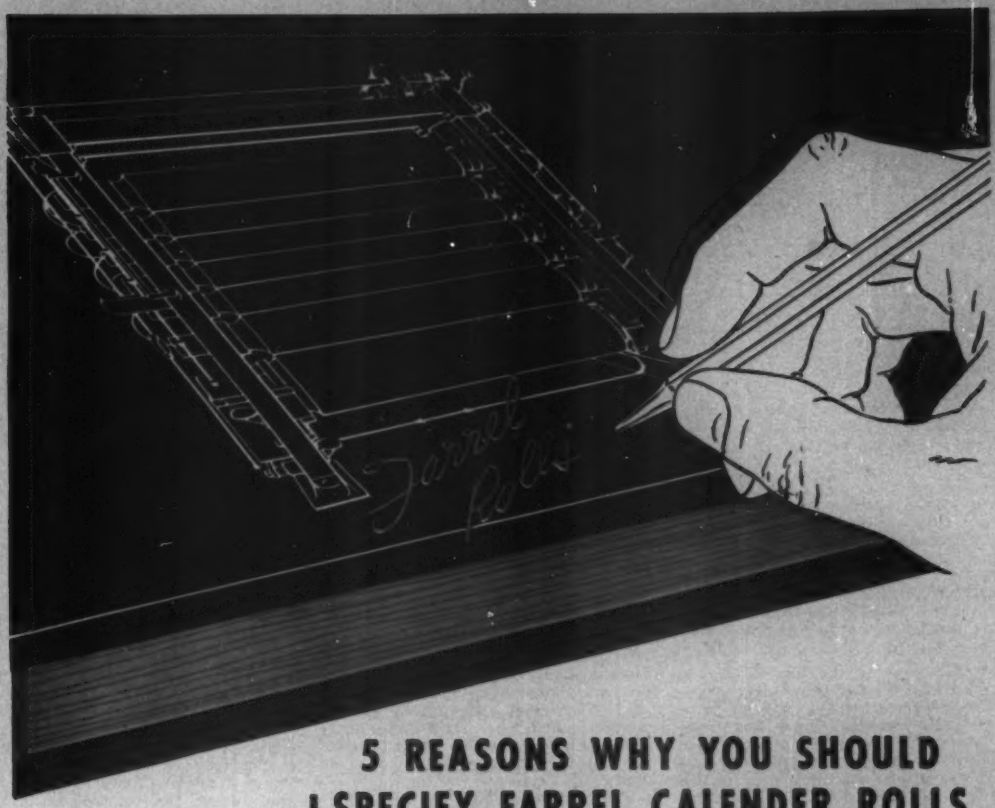


Figure 8—16 roll Glassine supercalender, front view tending side. (not available 3/5/51)

As shown by *Figures 4 and 5*, the power required to drive a supercalender depends upon the type of composition rolls, the operating nip pressure and the type of paper to be calendered. Thus, where a wide range of papers and finishes are to be encountered constant horsepower drives, providing additional torque at intermediate speeds, often permit the application of a smaller drive. Sheet weights and finishes requiring less torque can then be supercalendered at top speed while those requiring more torque can be adequately handled at the lower speeds. This is often not undesirable because the heavier weights are usually made at slower speed on the paper machine.

Constant Tension Windup and Unwind Drives

The shaft driven type of windup and unwind shown in *Figures 2a and 2b*, also require constant horsepower drives. However, for any given windup roll diameter, the motor provides a constant torque output for constant sheet tension, regardless of changes in paper speed, as illustrated in *Figure 10*. The motor speed is matched to the



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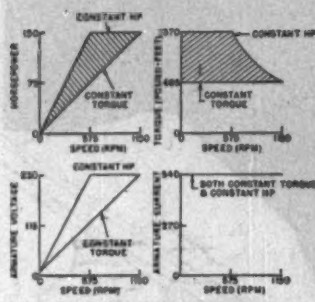


FIG. 9 CHARACTERISTICS OF A 150 HP, 1150 RPM CONSTANT TORQUE DRIVE AND A 150 HP, 575/1150 RPM DRIVE WHICH PROVIDES CONSTANT HORSEPOWER FROM 575 TO 1150 RPM. BOTH DRIVES HAVE THE SAME RATING AT 75% (1150 RPM) SPEED.

paper speed by motor armature voltage adjustment. The motor armature current and motor field current are held constant.

For any given paper speed the motor provides a constant horsepower output for constant sheet tension, regardless of changes in roll diameter. The motor then operates at a fixed armature voltage, which is proportional to sheet speed. The motor armature current is also held constant and the motor speed is matched to the sheet speed by motor field current adjustment or regulation.

Operation of the unwind braking generator is identical to that of the windup motor except that the latter provides motoring torque and horsepower while the braking generator provides braking torque and horsepower. The armature voltage applied to both the windup motor and braking generator must be proportional to calendar or paper speed. The armature current then establishes the operating sheet tension.

Thus adjustable voltage, constant horsepower drives provide constant (adjustable) sheet tension, neglecting friction and windage losses, over wide paper speed and roll diameter ranges by simultaneous control of both torque and speed, obtained by regulating windup motor input power (volts and amperes) and braking generator output power.

The constant tension drives described above have become the standard of the industry since they do not require dancer or floating rolls which are usually undesirable because they add mechanical complication, hinder the operation of the supercalender and ride on the sheet.

However, this type of drive cannot differentiate between friction or windage horsepower (losses) and tension horsepower. Thus, it is important that the windup and unwind be equipped with anti-friction bearings to reduce the friction losses as much as possible. For the same reason, the tension HP must be large by comparison to the friction losses and for best operation the minimum tension should be limited to 1½ lbs. per inch of sheet width.

Rotating Equipment

Typical electric drive arrangements for a modern supercalender with either constant torque or constant horsepower supercalender drives are shown in *Figure 11.* With the constant torque drive the main generator voltage is essentially proportional to calender speed, thus it is also suitable for powering the windup motor and unwind braking generator, providing each is modulated by suitably controlled boosters. The boosters (low voltage dc generators) are required to compensate for the motor (IR drop) resistance which is greater for the windup and unwind motors than for the large calender motor. Boosters are also required to circulate current through the windup and unwind motors, when the calender is stopped, to provide stalled tension.

With the constant horsepower drive the calender generator voltage is *not* proportional to calender speed over the entire speed range, and separate generators suitably regulated are required for the windup motor and unwind braking generator.

From a performance and operational standpoint, the two types of drives are identical.

Control Functions

The supercalender motor is speed regulated to provide good stability, most important at thread speed which on higher speed stacks may be as low as 1/80 of rated speed. Preset speed control, definite time acceleration and deceleration, adjustable stalled and running sheet tension, and effective emergency stops permit the highest performance to be obtained automatically, from the electric equipment and materially simplify the operation of the supercalender. The operator's controls provided for a coordinated supercalender drive are these:

Calender Drive	*Windup Drive*	*Unwind Drive*
Run	On	On
Normal Stop	Off	Off
Thread	Adjustable stalled sheet tension and adjustable running sheet tension	Payout
Jog		Adjustable stalled sheet tension and adjustable running sheet tension
Preset Speed Control		
Emergency Stop	Manual reversing	Manual reversing

Typical control benchboards are shown in *Figures 1 and 3.*

Threading of the stack may be done with the calender stopped or operating at thread speed. The unwind Payout switch enables the operator to motor the unwinding roll forward to feed the sheet into the calender. The Stalled Tension Rheostat permits adjustment of the payout speed. When threading with the calender open the sheet may be passed through the calender and pasted to the windup core. Stalled tension may then be set up by turning the windup and unwind switches to the On position. Rheostats permit adjustment of the stalled sheet tension up to approximately 50 percent of the rated running tension.

Most mills prefer to thread the stack with the calender operating at a low speed of 30 to 50 fpm. Tension is then applied to the unwind when the sheet is partially through the stack to provide a tight sheet entering the calender and thus reduce any tendency toward wrinkling. The windup is then started and the sheet is wrapped around and secured to the core on the fly. Running Tension Rheostats enable the operator to set and automatically hold essentially uniform sheet tension regardless of the operating speed or changes in roll diameter.

With the stack threaded, the operator need only to check the desired running speed setting and momentarily operate the calender Run switch to accelerate the entire drive to peak productive speeds. Automatic compensation increases the power input to the windup motor and decreases the power output from the braking generator during acceleration to minimize changes in sheet tension. Additional power is required by the windup to accelerate the roll and the motor. Likewise, less braking action is desired

WINDUP MOTOR TORQUE = TENSION (LBS) × ROLL RADIUS (FEET)

WINDUP MOTOR HP = $\frac{\text{SHEET SPEED (FPM)} \times \text{TENSION (LBS)}}{33{,}000}$

WINDUP MOTOR HP = $\frac{\text{MOTOR SPEED (RPM)} \times \text{MOTOR TORQUE (LB-FT)}}{5250}$

SHEET SPEED (FPM)	SHEET TENSION LBS	ROLL RADIUS FEET	HORSEPOWER	MOTOR TORQUE LB-FEET	MOTOR SPEED RPM (APPROX)	MOTOR VOLTS %	MOTOR CURRENT % AMPERES
TENSION AND ROLL RADIUS CONSTANT							
0	330	1.0	0	330	0	0	100
500	↓	↓	10	↓	160	33	↓
1000	↓	↓	20	↓	320	66	↓
1500	↓	↓	30	↓	480	100	↓
TENSION AND SHEET SPEED CONSTANT							
1500	330	0.5	30	165	960	100	100
↓	↓	1.0	↓	330	480	↓	↓
↓	↓	1.5	↓	495	320	↓	↓
↓	↓	2.0	↓	660	240	↓	↓
ROLL RADIUS AND SHEET SPEED CONSTANT							
1500	110	1.0	10	110	480	100	33
↓	220	↓	20	220	480	↓	66
↓	330	↓	30	330	480	↓	100

FIG. 10 CHARACTERISTICS OF A CONSTANT TENSION, SHAFT DRIVEN (CENTER WIND) WINDUP DRIVE. EFFECTS OF FRICTION, WINDAGE AND MOTOR RESISTANCE ARE NEGLECTED.

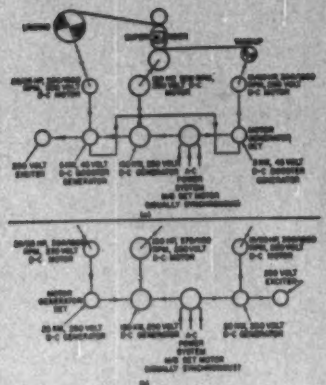


FIG. 11 SCHEMATIC DIAGRAM OF ROTATING EQUIPMENT FOR (a) CONSTANT TORQUE SUPERCALENDER DRIVE (b) CONSTANT HORSEPOWER SUPERCALENDER DRIVE. BOTH WITH SHAFT DRIVEN WINDUP AND UNWIND. TYPICAL MACHINE RATINGS ARE GIVEN. SPEED REDUCERS NOT SHOWN. ARROWS SHOW DIRECTION OF POWER FLOW.

from the braking generator because the unwind must be accelerated by the sheet.

Sheet tension and operating speeds may require frequent adjustment during the supercalendering of a single roll and this can be easily done with the conveniently arranged tension and preset speed dials. Changes in operating speed are automatically obtained by resetting the preset speed dial. During deceleration compensation is also provided on the windup and unwind to minimize changes in sheet tension.

Normal stops from any speed at a controlled rate, with stalled sheet tension established at standstill, may be initiated by momentary operation of the calender Stop switch. With the windup and unwind energized, the sheet tension is automatically transferred to the preset stalled value when the calender stops and to the run value when the calender is restarted. The Emergency Stop push button provides extremely rapid stopping of the calender and simultaneous electrical braking of the windup and unwind rolls.

Break detectors employing photoelectric relays or rollers or wires which ride on the sheet are sometimes arranged to automatically provide an emergency stop in the event of a sheet break.

Reversing switches for the windup and unwind, located on the main control panel, enable the sheet to be wound or unwound from the top or bottom of the roll.

Tension tapering as a function of roll diameter can be provided at the expense of some additional complication. However, it is seldom essential or even desirable from an operating standpoint. Changes in tension dictated by changes in web speed, by poor quality, by defects or non-uniformity of the sheet, and by changes in the tapering requirements from one type of sheet to another, render a fixed amount of tension tapering rather impractical.

Long scale, easy-to-read ammeters and a speed indicator provided the operator with a continuous indication of drive performance. Supercalender stack and also windup and unwind-mechanical controls are often located on the main control bench board to make the operator's job easier and enable him to take fullest advantage of the instrumentation and controls provided. Auxiliary drives and controls such as the stack pressure applying mechanisms, doctor oscillators, etc. are usually interlocked with the drive controls to prevent them from being started or energized unless the calender is running and to trip them off when the calender stops.

Conclusions

Cooperation between machinery builders and the electrical manufacturers on the power requirements as well as the control and operational details of supercalenders has incorporated refinements which render new machines easier to operate, permit higher speeds to be attained efficiently and which reduce the danger of damage to the equipment and operating personnel resulting from human negligence or errors. The result is better supercalendering at a lower cost per ton.

How to Increase Fork Truck Hoisting Speeds*

Hoisting speeds of fork trucks are a critical consideration in plants, warehouses and shipping departments where large volumes of pallet-loaded materials must be moved quickly each day. Any method for saving time by speeding fork-truck operations naturally results in appreciable yearly cost savings. Often overlooked is the fact that similar fork trucks can have different hoisting speeds.

The critical considerations here are not so much the weight and operational capacities of the truck, but rather the rated voltage of the power source. Because the lifting speeds of battery-powered fork trucks are almost directly proportional to the impressed voltage for a given load, higher voltages will provide faster lifting speeds. Hoisting-speed increases of 15 to 20 percent by this method are not uncommon.

Therefore, when considering the purchase of new equipment or the possibility of increasing the capacity of existing equipment, it is advisable to investigate the economics of a higher-voltage power source.

This does not imply that it is always more economical to operate fork-truck lifts at the highest possible speeds. There are many installations where the capacities of existing equipment are equal to and even greater than the plant's most critical material-handling needs. Naturally, in cases such as these, it would not be wise to install larger batteries.

However, in plants, warehouses and shipping departments where fork trucks are in almost constant use, any gain in time or speed will allow the same number of trucks to do considerably more work. For an example of how a larger power source can increase fork-truck hoisting speeds, let us look at the speeds of a 5000-lb. truck under two voltage conditions.

When powered by a 30-volt industrial battery, this truck has average hoisting speeds of 29 fpm with empty forks and 14 fpm when loaded to capacity. However, when powered by a 36-volt power source, the same truck can lift its unloaded forks at a speed of 34 fpm and capacity loads at 18 fpm. This represents a hoisting-speed gain of approximately 17 percent.

FORK TRUCK HOISTING SPEEDS*

Truck Capacity in Pounds	Battery Voltage: 30 Volts, Forks Unloaded	30 Volts, Forks Loaded	36 Volts, Forks Unloaded	36 Volts, Forks Loaded
2000	33	26	38	30
3000	33	25	38	29
4000	33	22	38	26
5000	29	14	34	18
6000	29	13	34	17
7000	20	11.5	24	14
8000	20	10	24	12

*Hoisting-speed values for these battery-powered fork trucks are in fpm (feet per minute.) Courtesy The Mercury Manufacturing Co., Chicago.

*The Mercury Manufacturing Co., 4044 South Halsted St., Chicago 9, Ill.

NOW... High Wet-Strength with KYMENE

Kymene 138, formerly called Resin 138, and Kymene 234 are firmly established as superior low-cost wet-strength resins for use in all types of wet-strength papers and paperboard—both in the stock system and for surface application.

These strongly cationic resins are in solution, ready to use. They may be diluted with water to any desired concentration. No acid additions or aging periods are needed before using. Alum is not required.

The effectiveness of Kymenes is demonstrated at Hercules' laboratories by the Instron, shown above. This highly sensitive equipment measures wet and dry tensile strength, and other important properties of wet-strength papers.

Write for technical data and sample.

HERCULES POWDER COMPANY

Paper Makers Chemical Dept., 962 King Street, Wilmington, Delaware

SIZING MATERIALS AND CHEMICALS FOR PAPER

"KYMENE" IS A HERCULES TRADEMARK PPSI-6

Similar possibilities exist for larger and smaller industrial trucks. The accompanying table lists average hoisting speeds for 2000-lb. to 8000-lb. capacity trucks when powered by 30 and 36-volt batteries.

Speeds for telescopic trucks to the second stage of hoisting are slightly less than the tabulated values. This is because of the greater weight and the additional friction.

Paper Ranks 5th

According to the latest compilation by D.P.A., July 16, Pulp and Paper ranks fifth in Certificates of Necessity issued in the basic materials class.

There are 54 projects, with a proposed investment of $420 million, with a tax authorization of $247 million allowed.

FORESTRY

RECORD TIMBER HARVEST

ESCANABA, Mich. — A record cut of timber on the national forests of the Lake and Central States during the fiscal year 1951 is reported by Jay H. Price, regional forester at Milwaukee, Wis.

Surpassing last year's timber yield by 58 percent, 261,500,000 board feet were cut from national forests in Michigan, Wisconsin, Minnesota, Missouri, Illinois, Indiana, and Ohio in the 12-month period ending June 30.

This tops the previous record, set in 1947, by almost 70,000,000 board feet. Twenty-five per cent was sawtimber and went into lumber and veneer; 72 percent was pulpwood and bolts, and 3 percent piece products such as poles, posts and piling.

The current cut, valued at $1,338,000, represents interest on the national forest investment, according to Price. It is well within the "allowable cut" determined by the Forest Service on the basis of annual growth.

Woods work necessary in harvesting the 1951 crop provided an estimated 500,000 man-days of employment to people living within or near the national forests. A total of 3,465 timber sales were made in the region during the 12-month period. Most of these were what the Forest Service terms family-size sales. They involve purchases of less than $500 in value and timber quantities that can be handled by one or two people. However, 225 sales were for timber ranging in value from $1,000 to $5,000, and 77 were for amounts of more than $5,000.

WOODS LABOR TROUBLE

OTTAWA — Threat of a battle between rival unions for control of logging camp workers in Ontario may lead to a shutdown of such bush operations. The unions involved are Canadian Union of Woodworkers and AFL Brotherhood of Carpenters and Joiners.

Bruce Magnuson, head of the Canadian Union of Woodworkers, has stated that if the operators attempt to negotiate agreements with the other union work stoppages would strike the 9,000 bush workers employed by 24 companies. The other union is scheduled to negotiate a new agreement shortly since the present agreement is due to expire August 31.

LABRADOR TIMBER SALE

A Washington, D. C., group, which owns 21,209 square miles of virgin Labrador forestry lands, is negotiating its sale or royalty operation.

The deal is being handled through the I. B. Corp., new affiliate of the International Bank of Washington, 726 Jackson Pl., N.W.

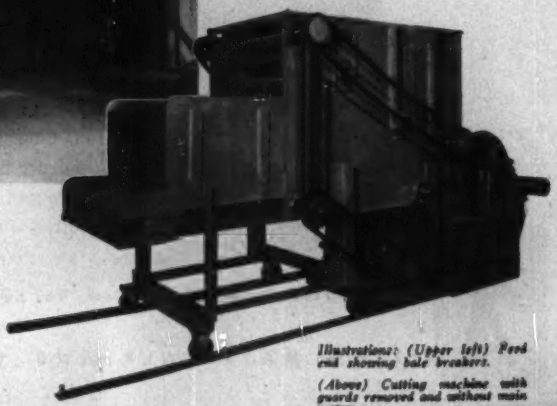
Austin C. Waller, vice-chairman of the International Bank, said that he expected sale of the 62-year crown lease on the Canadian tract to "a large American newspaper chain" to be completed in the near future. The Washington owners will receive a lump cash sum and royalties on each cord of hard spruce taken from the tract.

There are an estimated 1,500,000 cords of wood involved.

A NEW COMBINATION BALE OPENER AND STRAW CUTTER

This new machine is part of the development program sponsored by the U. S. Government and by the paper manufacturers to improve the processing of straw for incorporation in strawboard and other papers.

- It opens the bales.
- Cuts the straw to short lengths.
- Shortens the time in the digesters.
- Improves the product.
- Permits the use of straw in papers where never possible before.
- Cuts up to 1000 pounds of straw per minute.



Illustrations: (Upper left) Feed end showing bale breakers.

(Above) Cutting machine with guards removed and without main motor.

For full particulars write or wire—

TAYLOR, STILES & CO.

10 Bridge Street **Riegelsville, N. J.**

"what do you see?"

— in a freshly coated calendered sheet!

FLOKOTE produces a surface to match the finest presswork. Glossier. Brighter. Stronger. And pick-resistant against the tackiest inks.

FLOKOTE is an exceptionally stable oxidized starch . . . light in color . . . opaque. Good flow characteristics help to obliterate brush marks. High water retention makes coatings more uniform. Just the right combination of desirable properties for coating!

Special requirements?

Top quality printing papers or similar stocks? Machine or brush coated?

FLOKOTE is only one of National's many high-speed coating starches. Tell us your requirements. We have a completely staffed laboratory devoted exclusively to paper research. And a technical mill service to help you adapt any starch or dextrine to your plant operation. National Starch Products Inc., 270 Madison Avenue, New York 16, N. Y.

National
STARCH PRODUCTS

Please Send Us!

- ☐ FLOKOTE technical data
- ☐ FLOKOTE laboratory sample
- ☐ National's descriptive folder of products for paper making, coating, converting

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

PRICES

The prices below reflect market quotations in New York at the mill level on standard grades. Does not include spot offerings.

PAPER AND BOARD

Standard News, Delivered Ports
Rolls, contract, per ton $105.00/116.00
Sheets ..... 118.00/ —

F.a.b. Mills. C.l. Frt. allowed, dock, N. Y.

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$7.75/ —
No. 1 Wrapping Rolls	8.25/ 8.50
Standard Bag	7.50/ —

Tissues— per ream 24x36 (480) 10 lbs. 3500 lbs or more

Wh. No. 1 Frd.	$1.95 /$2.25
Wh. No. 1 MG	2.10 / 2.40
Wh. No. 1½	1.85 / 2.15
Wh. No. 2	1.85 / 2.15
Kraft Anti-Tar 20x30	1.85 / 2.15
White Anti-Tar 20x30	1.95 / —

Toilet— per case or 100 rolls—1 M sheets

Unbleached 4½x4½	$8.00/$8.25
Unbleached 4½x5	6.60/ —
Bleached 4½x4½	10.00/12.50
Bleached 4½x5	9.85/ —
Per Case of 50 rolls —2000 sheets	
Unbleached 4½x4½	$8.00/$9.75
Bleached 4½x4½	6.95/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½x5, 2-ply	$8.95/10.65

Paper Towels— per case of 3750

Wh. Jr. M'tif'd 9¼x9¼	$5.75
Br. Sr. M'tif'd 9¼x12	4.10
Br. Jr. M'tif'd 9½x9¼	3.60
Br. Jr. Spl. fold 9¼x10¼	3.65
Bleh. 7½x11, 24/25 rolls	$7.00/7.35

Manila, per cwt.

No. 1 Jute Tag, 100-lb., sheets*	‡ $20.55/22.55
Reg. Jute M.F. 40-lb., sheets*	‡ 19.50/21.50
Wrapping Manila	8.75/10.50
Printing Manila	10.50/12.00

* Less usual allowance for rolls.

Gummed Tape— per bdl., 500 bdls. or more

9-lb. 375 ft. GSI	$7.20 / —
60-lb. 600 ft. GSI	7.20 / —
35-lb. 800 ft. GSI	8.28 / —
35-lb. 500 ft. GSO	6.21 / —

MARKET WOOD PULP

Third Quarter Contract Prices, Per Short Air-Dry Ton

Varying freight allowances — On Dock Atlantic Ports

	*U. S.	Canadian	*Swedish	*Finnish	*Norwegian
Groundwood	$92.50/ —	‡$95.00/100.00			
Sulfate, Bleached	145.00/ —	190.00/200.00	$230.00/ —	$230.00/ —	$230.00/ —
Semi-bleached Sulfate	140.00/ —				
Sulfate, Unbl.	132.50/ —	145.00/175.00	200.00/ —	200.00/ —	
Sulfite, Bichd.	140.00/ —	160.00/175.00	225.00/ —	225.00/ —	225.00/ —
Sulfite, Unbichd.	132.50/ —	150.00/160.00	200.00/ —	200.00/ —	
Sulfite, Unbl'd (Glassine)		164.00/ —			
Soda, Bichd.	140.00/ —	135.00/160.00			
Sulfite Screenings	72.50/ —				
Sulfate Screenings	67.50/ —				
Groundwood Screenings	60.00/ —				
Unbichd Sulfate Siderums	132.50/ —				
Stand. News. Siderums.	92.50/ —	106.00 —			

* OPS Ceiling, CPR 49 ‡ F.o.b. Shipping Point.

Boards, per ton—

Filled News	$107.50/ —
Plain Chip	105.00/107.50
Bichd. Mix. Ld. Chip	147.50/ —
White Pat. coated .020	170.00/ —
Kraft Liners 42 lb.	115.00/117.50
Kraft Corr. .009	122.50/126.00
Binders Boards	137.50/140.00

The following prices are representative distributors' resale prices:

Rag Content Bonds and Ledgers— White, 20 lb.

Bonds	4 Cins.
	per cwt.
100% Rag Ex. No. 1	$76.45/$78.90
100% Rag	62.65/ —
75% Rag	48.15/ —
50% Rag	38.90/ —
25% Rag	31.65/ 33.00

Ledgers	4 Cins.
	per cwt.
100% Rag Ex. No. 1	$72.65/$72.80
100% Rag	63.90/ —
75% Rag	49.40/ —
50% Rag	40.20/ —
25% Rag	33.80/ 34.30

Sulphite Bonds and Ledgers White, 20 lb.

Bonds	4 Cins.
	per cwt.
Watermarked	$19.00/$20.50
Plain	‡ 18.40/ 195.0

Ledgers	4 Cins.
	per cwt.
Watermarked	$20.50/$21.80
Plain	19.35/ 20.80

White Book

Conversion Casted	Cans
	per cwt.
No. 1	‡ $23.90/$24.65
No. 2	‡ 22.15/ 23.40
No. 3	‡ 21.90/ 22.40
Machine Casted	
No. 1	‡ $18.40/$18.90
No. 2	‡ 16.65/ —
Uncasted	
No. 1 Antique (Watermarked)	‡ $19.15/$19.65
Offset	17.40/ 19.90
A Grade E. F.	‡ 18.15/ 18.65
A Grade S. C.	‡ 18.65/ 19.40
B Grade E. F.	‡ 18.40/ —
B Grade S. C.	‡ 17.40/ 19.15

‡ Indicates a price change.

WASTE PAPER MARKET

The following quotations were gathered from major dealers in each market. They are an indication of the price range in which volume tonnage was moving on the date specified. Prices to mills, per ton, f.o.b. cars shipping point (includes brokers' fee.)

	New York Aug. 6	Philadelphia Aug. 6	Boston Aug. 10	Chicago Aug. 3
No. 1 Mixed Paper	$17.00/ 19.00	$16.00/ —	$17.00/ —	$18.00/ —
Boxboard Cuts	20.00/ 25.00	16.00/ —	23.00/ —	23.00/ —
Mill Wrappers	20.00/ 30.00	22.00/ 24.00	20.00/ —	22.00/ —
No. 1 News	19.00/ 21.00	18.00/ —	— /19.00	18.00/ —
Over-issue News	28.00/ 35.00	25.00/ 27.00	22.00/ 24.00	23.00/ —
Corrugated Containers	37.00/ 39.00	36.00/ —	36.50/ 38.00	50.00/ —
New Corrugated Cuts	Nominal	38.00/ —	45.00/ 55.00	62.00/ —
Double Kraft Ld. Corr. Cuts	115.00/120.00	105.00/120.00	100.00/110.00	120.00/ —
100% Kraft Corr. Cuts	140.00/165.00	125.00/135.00	120.00/140.00	140.00/ —
Used Kraft Bags	85.00/105.00	80.00/ 85.00	75.00/106.50	60.00/ —
No. 1 Brown Kraft Paper	70.00/ 75.00	90.00/ 95.00	80.00/100.00	60.00/ —
Super Resorted Br. Kraft	100.00/105.00	100.00/105.00	90.00/115.00	90.00/ —
New Br. Kraft Env. Cuts	160.00/180.00	150.00/ —	150.00/170.00	150.00/ —
New Br. Kraft Cuts	150.00/175.00	130.00/140.00	140.00/170.00	140.00/ —
No. 1 Gdwd Shvs.	65.00/ 70.00	50.00/ 55.00	65.00/ 75.00	45.00/ —
White Newsblanks	90.00/ —	70.00/ —	80.00/ 90.00	70.00/ —
No. 1 Flyleaf Shvs.	80.00/ 90.00	70.00/ —	85.00/100.00	100.00/ —
No. 1 Soft Wht. Shvs.	160.00/190.00	165.00/ —	165.00/185.00	175.00/ —
Super Soft Wht. Shvs.	190.00/200.00	175.00/ —	180.00/200.00	185.00/ —
Hd. Wht. Shvs.	185.00/210.00	190.00/215.00	180.00/205.00	180.00/ —
Hd. Wht. Env. Cuts	200.00/245.00	200.00/225.00	190.00/225.00	190.00/ —
New Manila Env. Cuts	140.00/150.00	160.00/165.00	130.00/155.00	100.00/ —
Col. Tab Cards	110.00/120.00	100.00/ —	85.00/140.00	100.00/ —
Manila Tab Cards	170.00/185.00	160.00/ —	160.00/190.00	165.00/ —
No. 1 Mixed Ledger	95.00/105.00	90.00/100.00	77.00/100.00	100.00/ —
White Ledger	130.00/135.00	125.00/130.00	115.00/130.00	125.00/ —
No. 1 Book & Mag.†	41.00/ 45.00	35.00/ 45.00	30.00/ 50.00	22.00/ —
No. 1 Rep'd. Hvy. Books‡	50.00/ 55.00	43.00/ 50.00	50.00/ 65.00	45.00/ —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% groundwood.

RAG MARKET

New Domestic Cotton Cuttings
OPS Ceiling Price, CPR 28
Delivered Mill Basis

Add 7½% Dealer Commission

No. 1 White Shirts	$21.00
No. 1 Unbichd. Muslins	21.00
Bichd. & Unbichd. Underwears	21.00
Bichd. Canton Flannels	21.00
No. 1 Light Silesias	16.00
No. 1 Light Prints	11.50
No. 1 Blue Overalls	14.50
Suntan Khakis	11.50

Add 10% Dealer Commission

Fancy Shirts	$10.00
Indigo Blues	10.00
Mixed Khakis	8.00
Corduroys	8.00
Cottonades	8.00
No. 1 Washables	6.50

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
Mixed White	$5.00/$5.50
Cotton Pants & Overalls	4.25/ 5.00
Thirds and Blues, Repacked	4.00/ 4.25
No. 1 Roofing Rags	1.90/ 2.00
No. 2 Roofing Rags	1.60/ 1.70
No. 3 & 4 Roofing Rags	1.50/ 1.60

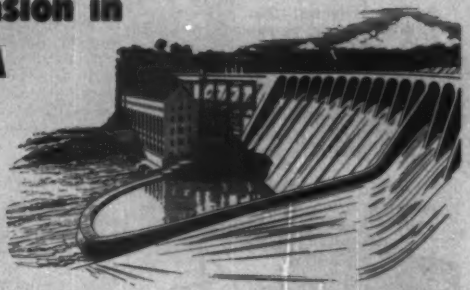
Bagging
(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$5.00/$5.50
Domestic Gunny, No. 1	5.00/ 5.50
Heavy Wool Tares	5.50/ 6.00
Foreign Manila Rope	8.50/ 8.75
Domestic Manila Rope	9.00/ 9.25
Jute Strings	6.00/ 6.50
No. 1 Sisal Strings	8.00/ 8.25
Paper Mill Tares	4.25/ 4.50
Foreign Scrap Burlap	4.25/ 4.50
Domestic Scrap Burlap	4.75/ 5.50
Austr. Wool Pouches	7.50/ 8.50
New Burlap Cuttings	7.00/ 7.50

MATERIALS

Aluminum sulfate:		
comi. bags, wks.	cwt.	1.65
iron-free c.l.		3.25
Alcohol, ethyl:		
tax free, dms. c.l.	gal.	1.01 / 1.03½
drld East Miss.		
Alcohol, methyl:		
Synthetic, Zone 1, dms. c.l. tk. alld.	gal.	.44
Casein, acid prec.:		
dom. sh. pt. c.l.	lb.	.39 / .41½
imp. ex. dock	lb.	.29½/ .40
Caustic soda:		
c.l. wks. solid, 76%, cwt.		3.35
6ak & grd. 100-lb. drums		3.75
liquid 50% tanks		2.55
liquid 70% tanks		2.65
China clay:		
dom. air-float. filler, c.l. wks.	ton	10.00
water-washed amp. filler		11.00
coating		17.60 /30.50
imported, ex whse.	short ton	15.20 /38.25
Chlorine:		
single-unit tanks, works	cwt.	2.70
multi-unit	cwt.	3.26 / 4.40
Formaldehyde:		
USP, ink. dms, c.l. wks.	lb.	.0625/ .0675
l.c.l., E. wks.		.0675/ .0725
Fuel oil:		
Bunker C, No. 6 Cal. bvy tanks, refinery	bbl.	1.95 / 2.15
light	bbl.	2.00 / 2.25
Hydrogen peroxide:		
USP, 35% clys. E. of Miss.	lb.	.23½/ .36½
Lime:		
hydrated, bags, wks.	ton	13.50
Rosin:		
B gum, drms, c.l. Savan.	cwt.	7.00 / 9.08*
G, H, I, K	cwt.	8.10 / 9.49*
FF, wood, do.	cwt.	6.50 / 7.30
*OPS Ceiling, CPR 52.		
Rosin size:		
70%, gum & pale grds, tank cars, mulh, sh. pt.	cwt.	6.47 / 6.65
Salt cake:		
dom. bulk, c.l. wks.	ton	17.00
wks. frt. all.	ton	20.00 /22.00
Soda ash:		
light, 58%, bags, wks.		1.30
bulk	cwt.	1.20
Sodium silicate 40°:		
turbid, c.l. wks.	cwt.	1.30 /
l.c.l. wks.		1.60 / 1.85
Sodium peroxide:		
dms. c.l. E. of Miss.	lb.	.21
l.c.l. do.	lb.	.21½/ .22
Soybean, protein:		
chem. ind, wks. c.l.	lb.	.34 / —
Clem. and Chic.		
Sulfuric acid:		
60° Be. clys. c.l. wks.	cwt.	1.75 / —
l.c.l. wks.	cwt.	2.05 / 2.85
Sulfur:		
crude, c.l. mines, contract,	long ton	21.00 /22.00
f.a.b vessels Gulf		22.50 /23.50
Sulfur dioxide:		
liquid, coml. cyl. wks.	lb.	.09
multi-unit cars	lb.	.0525
Starches:		
pearl corn, bags, c.l. wks.	cwt.	6.02 / —
white dextrines, c.l. wks.	cwt.	7.41 / —
potato, Idaho, c.l. wks.	cwt.	5.50 / —
potato, Maine, c.l. wks.	cwt.	5.75 / 6.00
tapioca, conv. dextrines	cwt.	7.75 / 8.50
low, Siam, on dock N.Y.		5.50 / 5.75
low, Siam, on dock N.Y.		5.50 / 5.75 nominal
Talc:		
domestic, 50-lb. sacks, c.l. wks.	ton	25.00 /30.00
Titanium dioxide:		
anastase, c.l. dcld., bags	lb.	.31 / .31½
l.c.l. dcld.	lb.	.33 / .33½
rutile, c.l. dcld.	lb.	.33 / .33½
l.c.l. dcld.	lb.	.34 / .34½

Why ALABAMA POWER COMPANY is Spending $100,000,000 for Expansion in ALABAMA



Thomas W. Martin, Chairman of the Board of Alabama Power Company, recently announced a record-breaking three-year program of expansion of $100,000,000.

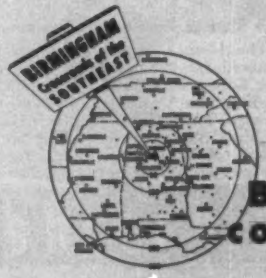
In a statement announcing the decision of the Company to spend this unprecedented sum for new construction, Chairman Martin said:

"No region in America has matched the Southeast's dynamic progress in the past two decades. The Southeast has outgained all sections of the nation in percentage of increase in per capita earnings and is now being generally acclaimed as the region of tomorrow's greatest opportunities for growth.

"Birmingham is the central city of the Southeastern States. It has outstanding manufacturing and distributing advantages for companies that are decentralizing, manufacturers that are broadening production, and firms which wish to put sales offices in the center of the growing Southeast consumer market. Among these are abundant raw materials and labor, a web of transportation facilities, low-cost fuels and power, and a most reasonable tax rate.

"Birmingham and Alabama have experienced their greatest industrial development in the postwar period. Studies made by our Company forecast continuation and acceleration of this progress in the period ahead. This is why we estimate the expenditure of more than $100,000,000 over a three-year period for expansion of our Company's facilities in Alabama."

* * * * * * * * *



The Committee of 100 or any of the undersigned members of the Executive Committee will welcome the opportunity to give you confidential and specific data regarding the advantages of the Birmingham district for your plant, office or warehouse.

BIRMINGHAM COMMITTEE OF 100

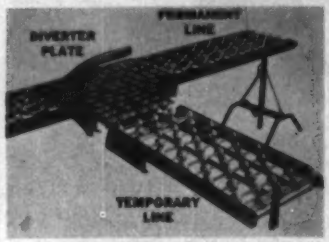
Executive Committee

Gordon Persons, Governor, State of Alabama
Bradford G. Cabaniss, President, Woodward Iron Co.
John S. Coleman, President, Birmingham Trust National Bank
Donald Comer, Chairman of the Board, Avondale Mills
William P. Engel, President, Engel Companies
W. W. Crouch, Jr., President, Moore-Handley Hardware Co.
Clarence B. Hanson, Jr., Publisher, The Birmingham News
W. M. Hoover, President, Employers Insurance Co. of Alabama
Morgan H. Sharp, Sharp, Agee & Leach
Glenn S. Lassen, President, Sloss-Sheffield Steel & Iron Co.
Thomas W. Martin, Chairman of the Board, Alabama Power Co.
J. G. Parsons, President, First National Bank
G. W. Schumacher, President, Lassman, Joseph & Leach
A. V. Wishart, President, Tennessee Coal, Iron & Railroad Co.

New Equipment

Flow Diverter

A Flow Diverter that connects at any point on a permanent line of gravity conveyor to move cartons in and out of storage bays without manual handling has been developed. Temporary spur lines can be set up quickly and easily on either side of a main conveyor line with this new attachment, it is said. The kit is made up of



a connecting yoke fastened to a 3-foot section of aluminum Rapid-Wheel; and a slotted aluminum Diverter Plate which has conveyor wheels projecting slightly above the surface. An adjustable curved aluminum guard rail also is included.

To set up a spur line, the connecting yoke bracket is hooked over the side frame of the permanent conveyor at the desired switching point, and a support stand placed under the opposite end of the 3-foot aluminum wheel section. Diverter Plate is then placed on the permanent conveyor line at the intersecting point to transfer goods from the main line to the spur line or vice versa. Gravity sections may be added to the outer end of auxiliary line to flow cartons into and from deep storage bays. Aluminum construction allows the entire kit to be transferred easily from one spot to another. Write to Rapids-Standard Co., Inc., Dept. FD, 342 Rapistan Bldg., Grand Rapids 2, Mich.

Waterproof Service Cover

A plastic waterproof service cover for the protection of machines against the harmful action of grease, water and dust is announced. Maroon in color, their bound edges machine-stitched to insure sturdiness, the covers come in six sizes: 12" x 28" x 28"; 21" x 37" x 24"; 32" x 48" x 17"; 32" x 60" x 17"; 38" x 72" x 25"; and 38" x 96" x 25".

Write to South Bend Lathe Works, South Bend 22, Ind.

Concrete Saw

Building floors, drives, walks, runways, etc., are cut with amazing ease with Diamond Blades and a Clipper Concrete Saw, the manufacturer states.

Concrete containing limestone aggregate can be sliced up to 10 feet per minute when cutting at a depth of 1 inch. Asphalt containing the same aggregate, and cut to the same depth, can be sliced at the rate of 12 feet per minute. Available for all types of aggregate and age of concrete, the blades are manufactured in diameters from 8" to 18" and in thicknesses of 5/32" to 7/64" for use on any type concrete saw. Write to Clipper Mfg. Co., Clipper Bldg., Kansas City, Mo.

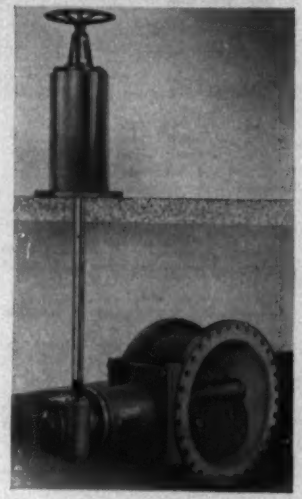
Bulk Storage and Feeding Equipment

The Hofft Company, Inc., has announced the conclusion of an exclusive license with AB C. J. Wennbergs Mekaniska Verkstad, of Karlstad, Sweden, for the manufacture and sale in the Western Hemisphere of a unique design of large bulk storage bin and positive unloading mechanism.

Known as the Hofft-Weverk Bulk Storage Unloader, the new bin and unloading mechanism designs are primarily adapted to large volume chip, bark, and waste storage at low levels and under remote control, and are designed to permit larger bulk storage than has heretofore been practical without high cost and multiple enclosing structures. For details and prices write to the Hofft Co., Richmond 26, Va.

Babbitt-Seated Valve

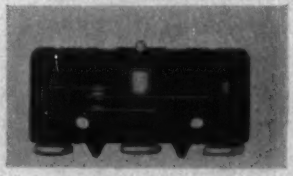
A new manual control valve features Babbitt seat. Heavy-duty No. 788 is equipped with totally-enclosed gear reduction drive, extended shaft and floor stand. Sealing of water



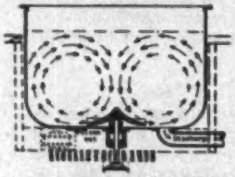
pressure is obtained by utilizing a babbitted seat in the body, and Monel or stainless steel welded to the periphery of the valve disc. Such metal-to-metal seat gives satisfactory commercial shut-off in most installations, it is said. With a 350 foot head of ambient water, for instance, a 36-inch valve with a babbitted seat has a leakage of only 50 ghp. Remote, automatic or semi-automatic controls are also available for this type of valve. Manufactured by R-S Products Corp., (S. Morgan Smith Company subsidiary), 4600 Germantown Ave., Philadelphia 44, Pa.

Du-Op Switch

The du-op switch is designed for the numerous applications requiring a compact, lightweight, long-life, limit switch. As a direct-acting switch, the du-op has no inherent characteristics of bounce. Mechanical lost motion, which would delay contact operation, is eliminated because instantaneous contact is made at the same fixed point of repetitive plunger travel, it is claimed. The centrally-located plunger permits easier cam design and acts directly on the long contact spring to insure contact transfer with maximum spring pressure. Each of



APMEW
AQUABRUSHER
PULPER & BEATER
(PATENTED)



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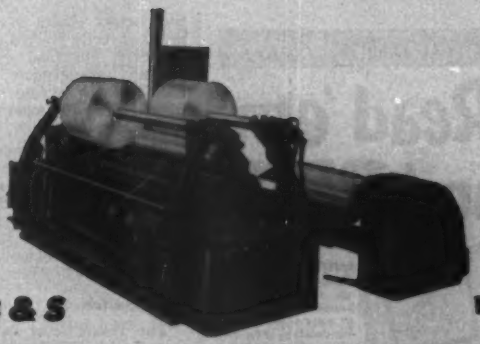
Cut Your Downtime on mill roll changing to 1 Minute or Less



with the **NEW B&S**

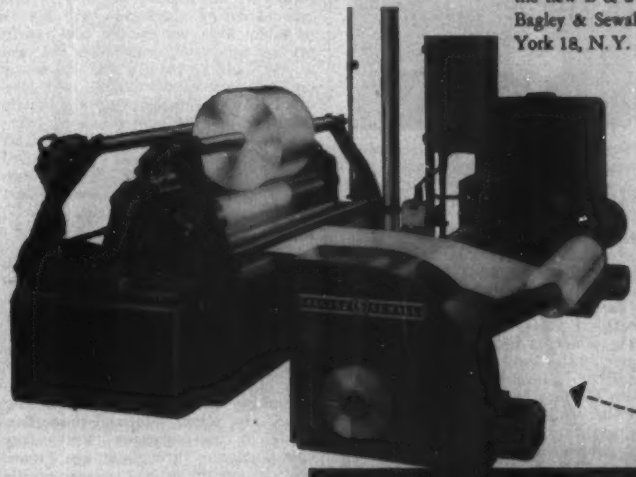
SHAFTLESS BACKSTAND

Money-consuming downtime on mill roll changing is cut to the bone by the wholly automatic B & S Shaftless Backstand. Here is what Mr. C. Carr Sherman, President of H. P. Smith Paper Co., has to say about this equipment:

"The engineering of this new unit indicates a fine understanding of the problems of the users of this type of equipment. The Backstand is much easier to handle as there are no shafts. It is also much easier and faster to make changes on it. I believe that changing rolls with this Backstand can be brought down to well under one half minute."

You may purchase the B & S Shaftless Backstand with or without the new B & S Slitter and Rewinder. The Backstand may be used on any type of rewinding equipment, as well as on waxing and laminating machinery, printing presses, etc.

For full details on the Shaftless Backstand and the new B & S Slitters and Rewinders, write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.



THE B & S #55 SHAFTLESS BACKSTAND features automatic tension and side register control; motor for raising and lowering mill roll arms, also motor for moving the arms to accommodate different width rolls. Entire working mechanism is totally enclosed.

designers and builders of

BAGLEY & SEWALL

WATERTOWN, NEW YORK

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MOVIE DIGEST Clark movies enable you to see at your convenience modern machines in action. Synopses of films widely rated "the best in the materials-handling field," and how to borrow them.

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the contact blades is a solid piece of metal, directly riveted to the terminals, reducing electrical resistance. The contact arrangement is single pole, double throw, spring return; and will handle up to 20 amperes, 125 volts a.c., non-inductive.

The unit is enclosed in a compact phenolic-molded housing which has the same 1 inch mounting dimensions as snap-action switches, plus other convenient mounting provisions. Equally-spaced and rugged terminals reduce wiring problems. Write to General Control Co., Boston 34, Mass.

Level Switch

The Tektor level switch is designed to make possible level control of practically all liquids and solids. Liquids may be of high or low viscosity and may have electrical conducting or insulating properties. No electrical contact is necessary with the material under control. The equipment does not rely on floats, diaphragms, or any moving mechanical parts.

Tested successfully for control of practically every type of liquid, powder, and granular solids, flour, wheat, coal, etc., with sensing electrodes suitable to the specific problem, the manufacturer claims.

Model AJ-1 Tektor is housed in a dust-tight, splash-proof, die-cast aluminum box. The electrode, connected to the instrument through a two-foot length of cable, consists of a simple probe which is inserted into the container at the level at which control is required. A level differential of 1/32" up to 3/8" may be obtained. The probe may be insulated or not, depending on the application.

Available from Fielden Instrument Corp., 2920 N. Fourth St., Philadelphia 33, Pa.

Hoist Binder

The load binder works on the ratchet hoist principle which permits tightening or slacking off any amount up to a full 20½ inches without releasing load for a new grab. Full strokes can be used for rapid take-up; half strokes permit minute adjustments. Further to speed operation, the

binder chain may be pulled freely through the ratchet when not under load. Binding and slacking off is by means of the handle only. With this type of design, the handle will not fly up under load, but may be removed to prevent tampering with either the load or the binder. (When the handle is out, the load cannot be released. Another safety feature is that the handle bends before the binder can be overloaded beyond safe limits.) Unit weighs 10 lbs. and will exert a pull of 3,000 lbs., according to the manufacturer. Available from Coffing Hoist Co., 800 Walter St., Danville, Ill.

High Intensity Spotlight

A powerful, new outdoor spotlight, providing 100,000 candlepower with only a 300-watt rating is announced. The unit is designed to concentrate its entire light output in a long-throw, oval-shaped, narrow floodlighting beam that is recommended for area protection lighting of such vulnerable spots as railway sidings, switch and loading areas, and other industrial properties. Made of non-corrosive, heavy-duty cast aluminum throughout, the Stonco No. 56 spotlight has a universally adjustable cast-aluminum swivel arm threaded ½" NPT to fit a variety of standard interchangeable accessories. Up to five units can be mounted to a single cluster light assembly so that in anti-sabotage lighting in particular, all lights in a cluster would have to go out before total darkness is possible. All wiring is completely enclosed. Write to Stonco Electric Products Co., 489 Henry street, Elizabeth 4, N. J.

Rotary Press

High speed combining of glued materials up to ⅛" thick and 30 inches wide is the function of a new rotary

press made by Potdevin Machine Co., 1285 38th St., Brooklyn, N. Y. Unit is suited for hand feeding flat sheets or set up in a production line for combining webs of glued materials. Pressure is adjustable to accommodate materials of varying thickness.

Condensate Return Unit

The new vertical Roth Condensate Return Units are designed for applications up to 8000 sq.ft. EDR at 20 psi. Two sizes cover this range. A complete assembly, the unit handles

water up to 210°F. without vapor lock. The new vertical design is particularly intended for installations where the return piping is close to the floor level. Can also be installed in a shallow pit when desired without risk of flooding the motor. Manufactured by Roy E. Roth Co., 2420 Fourth Ave., Rock Island, Ill.

General Purpose Pumps

A new line of general purpose centrifugal pumps is in production. Designated as Type SCC, the new pumps are described as light in weight, easy to handle, install and mount, and well suited for any small pump application, and to original equipment installation wherever small pumps are required. They are also well adapted to booster and process pumping, and sewage or stock pump packing gland water supply.

The SCC Pumps are of close couple type, equipped with mechanical seals. Motors are of the standard open drip type. Standard mounting is vertical; however, with the addition of motor feet, the pumps can readily be adapted for horizontal mounting. Two sizes are available: 2" suction x 1¼" discharge and 1½" x ¾". Both operate at 3450 rpm. Capacities range to 100 gpm at heads and to 120 feet. Manufacturer: Economy Pumps, Inc., Division of Hamilton-Thomas Corp., Hamilton, Ohio.

Fluorescent Mercury-Vapor Lamp

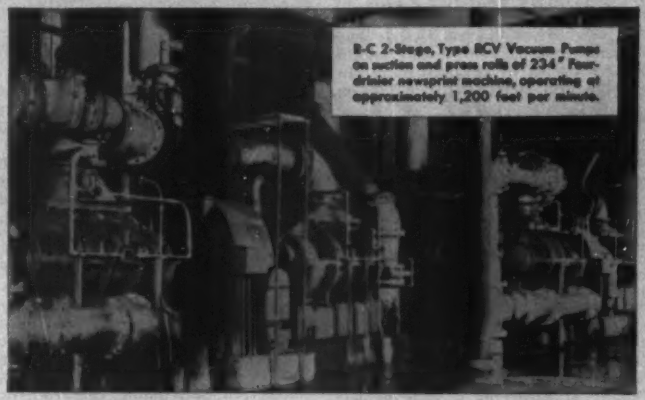
A basically new light source, the 400-watt J-H1 fluorescent mercury-vapor lamp, is available.

The new lamp will burn in any position and can be used in existing screw-in fixtures for 400-watt mercury lamps. Electrically similar to the 400-watt A-H1 and E-H1 types, the J-H1 will operate from H-1 ballasts, it is said. Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

NEW SUPPLIES

New Masking Tape

A new, general-purpose masking tape — for painting, sealing, protect-



R-C 2-Stage, Type RCV Vacuum Pumps on suction end press rolls of 234" Fourdrinier newsprint machine, operating at approximately 1,200 feet per minute.

5 VITAL POINTS ABOUT VACUUM PUMPS

Protect production by checking your present or planned vacuum pumps against these 5 basic needs:

1. **LOW POWER CONSUMPTION**—because units are recommended, either single or compound, to operate at the most efficient point.
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3. **HIGHER SPEEDS**—permitting direct connection to standard motors, saving first cost, space and weight.
4. **FLEXIBILITY**—to meet varying demands; suction automatically overcomes resistance in system.
5. **DEPENDABILITY**—long-time, attention-free operation, due to simplified design and construction.

Bulletin 50-B-13 tells you how R-C Cycloidal Vacuum Pumps deliver these 5 vital requirements, plus other advantages.

Roots-Connersville Blower Corporation
510 River Avenue, Connersville, Indiana

ROOTS-CONNERSVILLE
ONE OF THE DRESSER INDUSTRIES

ing, and other uses—is announced. The new tape—"Scotch" brand masking tape—can be used for straight-line painting, separating colors on two-toned walls, holding paper masks over woodwork and floors to protect them from paint splatter, securing stencils and blueprints for tracing, and preventing splintering by taping line-of-cut before sawing, it was pointed out. In addition, the tape can be used for sealing cartons, clothing bags, and frozen food packages. From: Minnesota Mining and Mfg. Co., 900 Fauquier St., St. Paul 6, Minn.

Tying Twine

Fiberglas strands form the core of a new type of tying twine, introduced by the Allied Products Division of Columbian Rope Co., Auburn, N. Y. The new twine, Colcord G, has successfully met laboratory tests and is being tried out by customer-users, the manufacturer states.

Instant Steel Hardener

"Instant Hardner No. 1" is said to harden steel tools, parts, edges, threads, dies, drills, etc., with an ordinary welding torch and without the fuss and mess of conventional heat treating. "Instant Hardener No. 2," while applied in a similar manner to No. 1, is strengthened with small hard facing particles mixed right into the compound. These hard particles, when heated, fuse with the parent metal to give a combination of hardening and hard overlay, making it particularly effective for such applications as hardening a plate against abrasive wear, etc. Write for folder, TIS 512-P, to Eutectic Welding Alloys Corp., 172nd St. and Northern Blvd., Flushing, N. Y.

Quick-Setting Cement

A floor patching compound that sets hard in 15 to 30 minutes is announced. Permanent repairs to chuck holes or breaks in concrete floors can be made easily and quickly during working hours by using POR-ROK Quick Setting Cement, it is stated.

The cement is self-bonding, will not shrink, and requires no trowelling for a perfect finish. The patch is ready for light loads in 15 minutes, normal trucking in 30 minutes. Made by Hallemite Mfg Co., 2446 West 25th St., Cleveland 13, Ohio. Dept. PJ.

Dye Assistant

Barisol BRM was first introduced for vat and sulfur dyeing of cottons. Actual plant applications have revealed it has unusual sequestering powers on pectins and other complex substances normally found in cotton. Mills requiring excellent emulsifying, detergent and dispersing powers in alkaline solutions should find Barisol BRM useful, it is stated. Its action, for example, is suitable in the alkaline boiling of rags for paper manufacturing. Write to Dexter Chemical Corp., Boulevard P. O. Box 1, New York 59, N. Y.

Pylene Adhesives

The Pylene resins are available as powders, pre-polymer liquids, and as solvent solutions, and can be supplied in one part containing catalysts already incorporated, or as two parts to be mixed prior to use. Some grades can be converted to very hard and tough plastics without the use of heat, while others can be polymerized only by heat. Said to be resistant to solvents, chemicals, abrasion, and heat. They are virtually unaffected by aqueous acids or alkalies, by gasolines or oils, or by many other solvents. When set, they are tough and horny plastic materials which can resist abrasion and vibratory forces as well, it is stated. An outstanding characteristic of bonds made with the new adhesives is their electrical resistance. They have inherently excellent properties as regards dielectric strength and volume resistivity. The combination of properties suggests their use in a great variety of new applications. Polymer Industries, Inc., 11-08 30th Ave., Astoria, N.Y., or Polymer Southern, Inc., P. O. Box 2184, Greenville, S. C.

FINANCIAL

Interstate Container Corp., effective August 1, acquired the stock interest held in it by The Chesapeake Corp. of Va. As part of the consideration for the surrender of its stock in Interstate Container Corp., The Chesapeake Corp. received 100% stock owership of The David Weber Co. of Philadelphia, Pa. Under an agreement entered into between both companies, the Chesapeake Corp. will continue to be the principal supplier of board to Interstate Container Corp. and its affiliates.

National Container Corp. increased the regular quarterly dividend on its common stock to 25 cents per share. Previously the company paid 20 cents quarterly dividends, or at the rate of 80 cents per year. At the end of 1950 an extra dividend of 15 cents per share was paid. The current dividend of 25 cents per share is payable September 10 to stockholders of record at the close of business on August 20.

Scott Paper Co. net sales for the six months ended June 30, 1951 were $61,820,634 compared with net sales of $47,291,805 reported for the six months ended July 2, 1950. Income before taxes for the 1951 period was $8,853,305 against $6,190,079 for the first half of 1950.

Net income, after provision for taxes, for the first half of this year was $3,429,452, equal after preferred dividend requirements to $1.82 per common share. Per share earnings for the first half of 1950 were $1.63, after giving effect to the two-for-one stock split on July 27, 1950, and application of the final 1950 tax rates. In its report for the first half of 1950, before the new tax rates went into effect Scott reported net income of $3,730,116, or $2.02 per share after adjustment for the stock split.

Brown Co., Berlin, N. H., together with its wholly owned Canadian subsidiary, Brown Corp., LaTuque, P. Q., had consolidated net sales of 38,035,000 for the first seven four-week accounting periods of this fiscal year. This is average period sales of $5,434,000 compared with an average per period during the fiscal year 1950 of $4,085,000, an increase of approximately 33⅓ percent over the average of the entire last year, the second half of which was more favorable than the first.

Quarterly dividends of $1.25 per share on the company's $5 first preference stock and 75 cents per share on the $3 second preference stock were declared payable September 1 to stock of record at the close of business August 21.

Marathon Corp. has declared a quarterly common dividend of 50 cents a share, payable August 31 to stockholders of record at the close of business August 10. The dividend on preferred stock is $1.25 a share, payable October 1, to stockholders of record September 20. Both dividends are net to stockholders, as the company assumes payment of the Wisconsin privilege dividend tax.

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Consolidated Paper Corp., Ltd.
Montreal, Canada
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Wayagamack Kraft

National Container Corp. and subsidiaries report for the six months ended June 30, 1951 consolidated net profits, after estimated taxes, of $5,787,000, equal to $2.10 per share on the company's 2,752,482 shares of outstanding common stock. This compares with consolidated net profits of $1,854,000 or 68 cents per share in the first half of 1950.

Before taxes, the company's profits were $14,877,000 in the first half of 1951, compared with $2,984,000 in the same period last year.

For the three months ended June 30, 1951, the company consolidated net profits, after estimated taxes, were $2,859,000, equal to $1.04 on its common stock, against $918,000 or 34 cents per share in the corresponding quarter of 1950. The June 1951 quarter's profits, before taxes, were $7,529,000, compared with $1,485,000 before taxes in the same period last year.

Sales for the first half of 1951 amounted to $37,834,000 and for the second quarter were $18,741,000, which compared with $18,265,000 and $9,482,000, respectively, in the corresponding periods in 1950.

All figures pertaining to 1951 are unaudited and subject to year-end adjustments.

Hollingsworth & Whitney Co. have declared a dividend of 62½ cents per share of common stock, payable September 12, to stockholders of record at the close of business August 24. A dividend of the same amount per share was paid in September of last year. The directors have also declared a regular quarterly dividend of $1.00 per share on the $4 cumulative preferred stock, payable October 1 to stock of record at the close of business on September 14.

Robert Gair Co., Inc. has declared a quarterly dividend of 25c a share for the third quarter of the year on the common stock of the company, payable September 10, to stockholders of record at the close of business on August 20, without the closing of the transfer books. This compares with 15c a share for each of the first two quarters of the year. The dividend on the preferred stock of 30c a share for the third quarter of the year 1951 will also be payable on September 10 to stockholders of record at the close of business on August 20 without the closing of the transfer books.

Robert Gair Co., Inc., and its Domestic Subsidiaries report consolidated net income for quarter ended June 30, 1951, including its 60 percent equity in the consolidated net income of Southern Paperboard Corp. and its subsidiary, combined with the consolidated net income of Gair Co. Canada Ltd. and its wholly owned subsidiaries, amounted after deducting provision of $2,697,000 for U. S. Federal Income Taxes and after preferred dividends to $2,208,424, or $1.24 per share on 1,779,888 shares of common stock.

The combined net income for the first six months of 1951, after deducting provision of $5,057,000, for U. S. Federal Income Taxes and after preferred dividends, amounted to $4,184,915, or $2.35 per share on 1,779,888 shares of common stock. For the same period in 1950, the combined net income, after deducting provision of $816,000 for U. S. Federal Income Taxes, and after preferred dividends, was $2,239,164 or $1.26 per share on 1,779,888 shares of common stock. Net sales of Robert Gair Co., Inc., and its wholly owned subsidiaries for the first six months of this year amounted to $43,121,276 compared to $24,657,106 for the same period in 1950.

Donohue Brothers, Ltd., and its wholly owned subsidiary, Donohue Brothers Sales Corp., Quebec, estimated consolidated earnings for the six months ended June 30 amounted to $903,291 after depreciation but before income tax. After deducting $475,131 provision for income tax, the net estimated profits for the period, subject to audit, are $428,160, equal to $2.85 per share, compared with $433,132 or $2.89 per share for the six months ended June 30, 1950.

A dividend of 25 cents per share has been declared, payable September 1, to stockholders of record August 15.

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LIQUID SULFUR DIOXIDE

. . . is the quality standard of the industry . . . 99.9+% (by weight) pure.

. . . is shipped in 150-lb. cylinders, 2000-lb. ton drums, 30,000-lb. tank trucks, 40,000 and 60,000-lb. tank cars.

. . . is available for immediate shipment, in any desired quantity to any domestic and approved foreign destination.

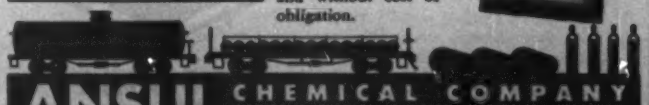
In the paper industry the use of Ansul Sulfur Dioxide . . . *plus the services of the Ansul staff of chemical engineers* . . . has resulted in new economies, better controls and improved quality in a variety of applications.

GROUNDWOOD PULP MANUFACTURERS use Ansul Liquid Sulfur Dioxide as a neutralizer in their peroxide bleaching operation. It is safe and economical to use . . . *and improves brightness, too!*

NEUTRAL SULFITE PULP MANUFACTURERS have avoided costly delays and shutdowns by using Ansul Liquid Sulfur Dioxide to manufacture their own sodium or ammonium sulfite.

And the Ansul "Controlled SO_2 System" eliminates the need for burner gas, decreases costs and provides efficiencies well worth investigating.

Ask for information relating to your operations. Valuable data will be sent to you promptly and Ansul's chemical engineering staff will cooperate with you willingly and without cost or obligation.



ANSUL CHEMICAL COMPANY
INDUSTRIAL CHEMICAL DIVISION, MARINETTE, WISCONSIN

Stone Container Corp. report to stockholders for the six months ended June 30, 1951, shows sales totaled $13,395,658 compared with $6,787,544 in the same period last year. Net profits rose in almost direct ratio—$1,067,959 or $1.52 per share compared with $506,275 or 72 cents per share during the first half of 1950.

Net worth of Stone Container at June 30, 1951, amounted to $8,057,204 or $11.51 per share of common stock outstanding. This was an increase of $787,960 or $1.12 per share from December 31, 1950, after payment of dividends of 40 cents per share during the last six months.

The Hearst Consolidated Publications earnings according to their semi-annual statement have dropped to $1,322,700 from $3,599,800 for the same period 1950. It is estimated that with the recent price increases in paper that an additional $5 million will be added to the Hearst operating costs.

Keyes Fibre Co., manufacturers of molded pulp products and fibrous plastic articles, have declared a quarterly dividend of 40 cents per share on the common stock payable September 1, 1951 to stockholders of record at the close of business August 10. The directors also declared a dividend of 35 cents a share on the first preferred stock 5.6 percent series of $25 par value per share, payable October 1 to shareholders of record September 10, and a dividend of 75 cents a share on the Class A stock, payable November 1 to stockholders of record at the close of business October 10.

Hanchett Mfg. Co., Big Rapids, Mich. has recently expanded its plant production through the addition of a huge 50' x 450' assembly space equipped with modern machinery and production facilities. Latest type shears, pantographs and power presses have been purchased for a new steel fabricating division, already in operation. The added area and equipment will be used for the increased production of knife grinders. . . . Hanchett has also expanded production facilities in its Portland, Ore. plant with the installation of more than $50,000 in new equipment. As in Big Rapids, a special group of field engineers are available at the Portland plant.

SUPPLIES

BLACK CLAWSON CO's vice-president, J. D. Haskell has returned from a trip, covering well over 30,000 miles, to Australia, Tasmania and New Zealand. Mr. Haskell, also general manager of the Dilts Machine Works Division, and managing director of B-C International Ltd., London subsidiary of The Black-Clawson Co., made the trip as an integral part of an extensive liaison program being carried on by the Black-Clawson world wide organization. Mr. Haskell was highly impressed with the progressive growth of the Australian paper industry, particularly evidenced by the modernization program being undertaken by Australian Paper Mfgrs., Ltd., at its Petrie, Botany, Maryvale, Broadford and Fairfield mills. This program includes many items of Shartle stock preparatory equipment now being manufactured in Great Britain. Also visiting mills in Tasmania and New Zealand which were equally impressive, Mr. Haskell had a scheduled meeting in New Zealand with R. T. Petrie, Black-Clawson's West Coast sales manager and returned to the States by way of the Pacific.

Tony Agronin, chief engineer of Shartle Brothers Division, will leave New York on August 10th., for an extended visit to South American paper mills. In South America, Mr. Agronin will consult with paper mill engineers on paper making problems and will observe operation of BCSD equipment installed in many of South America's paper mills. K. E. Sundqvist, president of Industria Inc., South American representatives of Black-Clawson, will travel to South America with Mr. Agronin. Mr. Agronin expects to return on or around the first of September.

INDUSTRIAL OVENS, INC.; has appointed George H. Goecke as sales engineer. Mr. Goecke will work under the direction of J. K. Gillett, sales manager, and will use the Cleveland headquarters of the company at 13825 Triskett Rd. as his base of operations. Industrial Ovens designs and builds continuous processing equipment for the rubber, plastic, textile, paper and wire industries.

DOW CORNING CORP. has moved its New York office to 600 Fifth Ave. M. H. Langford is manager of the New York office.

ENGLISH ECCO CLAYS CLAYS

TRADE MARK

UNIFORM SUPERIOR DEPENDABLE

English China Clays Sales Corporation
551 Fifth Avenue, New York City

HARRIS-SEYBOLD CO. has realigned its sales and service organization in the 17 northeastern states bounded by Maine, Virginia, Kentucky and Michigan.

Six new districts have been created in this area. Six district managers were also named as the company's large Eastern and Central Districts were streamlined into six smaller, compact units.

The district managers will have responsibility for sales in their districts, and the administration of installation and service through service supervisors. All veterans of the graphic arts industry, most are well known as former branch managers or sales representatives in the same general areas which they now serve.

The districts and their managers are as follows:

New York District—Theodore M. Broadston, manager, 380 Second Avenue, New York 10, N. Y.

North East District—Joseph C. Doty, manager, Room 423 Rice Building, 10 High Street, Boston 10, Mass.

Philadelphia District—Ralph R. Randall, manager, 20th and Chestnut, Philadelphia, Pa.

Washington, D. C. District—Paul H. Schafer, manager, 418 DuPont Circle Bldg., Washington 6, D. C.

Home Office District—John M. Morehouse, manager, 1200 Keith Building, Cleveland 15, Ohio.

Central District—Robert T. Cookingham, manager, 1200 Keith Building, Cleveland 15, Ohio.

THE DURALOY CO., Scottdale, Pa., manufacturers of high alloy castings, has appointed J. W. Zines as general manager of operations. Mr. Zines was formerly assistant to A. M. Miller, who has been transferred to the Detroit office. Harry Robbins has been named as assistant to Mr. Zines.

VALLEY IRON WORKS CO. is expanding facilities at Appleton, Wis., for the third time since 1945.

The latest steel and brick addition, now under construction, is 120 ft. x 80 ft. and rises 55 feet in the air. Large machine tools including several boring bars will be installed in this section which also will provide additional space for assembly.

A wing attached to the new building is two stories high. The first floor will house a modern First Aid room,a production control office and tool room. The reinforced second floor will house light machine tools, as well as showers and employee locker space.

The new additions will add 20,800 feet of additional machine and assembly space to Valley's expanding facilities.

LIBBEY-OWENS-FORD GLASS CO. has appointed Carleton Ellis, Jr., as director of sales of Plaskon Division.

In the past three years the division has introduced three new alkyd molding compounds, to add a new plastics group to its line of urea and melamine molding materials; three new silicone-alkyd coating resins, plus four additions to its regular line of alkyd, urea, melamine, phenolic and maleic coating resins. An aminoplast paper-treating resin, and two urea and two phenolic resin glues have been developed to broaden the glue and industrial resin group of products.

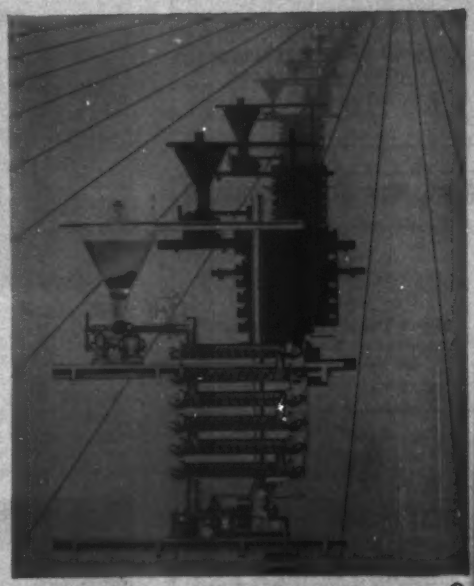
LYON-RAYMOND CORP., manufacturers of electric industrial trucks and hydraulic elevating equipment, will be known as The Raymond Corp. after September 1, 1951.

EBASCO SERVICES, INC., has appointed Carl Elis Cederblom as senior consultant in the Space Planning Department. Mr. Cederblom was formerly project director for Rodgers Associates.

RAPIDS-STANDARD CO., Grand Rapids, Mich., manufacturers of conveyors, casters and trucks, has appointed George R. Brockway vice-president in charge of sales and advertising and Harvey M. Rasmussen sales manager. Mr. Brockway formerly held the post of vice-president and sales manager, while Mr. Rasmussen was assistant sales manager of the material handling equipment firm.

NOW!

OVER 65 UNITS IN OPERATION



CHEMI-PULPER®

as used with the Asplund Defibrator

An ever-increasing number of installations in the pulp and paper industry evidences the outstanding operational and economy advantages of the Chemi-pulper. Year after year, more installations are made in mills producing various grades of pulp for specific requirements, using either hard or soft woods, or mixtures of such woods. These pulps are used for making .009 for corrugating; flooring, roofing and automotive felts, and insulating board.

Reasons why the Chemi-pulper paces the trend towards continuous pulping are described in the Chemi-pulper Bulletin, yours for the asking.

PAPER and INDUSTRIAL APPLIANCES INC
122 EAST 42nd STREET • NEW YORK 17, N. Y.

MERRITT-CHAPMAN & SCOTT CORP. have announced the election of David A. Goodkind to the board of directors of the company. Mr. Goodkind is the senior member of David A. Goodkind & Co., certified public accountants and tax consultants, 1 Madison Avenue, New York. He is also a member of the tax committee of the American Mining Congress and a director and treasurer of Ringwood Iron Mines, Inc.

CHEMIPULP PROCESS, INC.

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Consulting & Designing Engineers

WALLBOARD MILLS

Chrysler Building,
New York 17, N. Y.

AMERICAN CYANAMID CO. have signed two non-profit contracts with the Atomic Energy Commission, one calling for extensive research to find new ways of recovering uranium from various ores and the other for operation of a plant to recover nuclear fuel from used reactor fuel elements. Dr. R. C. Swain, vice-president in charge of the company's research and development, and director of the company's recently-organized Atomic Energy Division, set up to coordinate all the company's activities for the AEC, announced signing of the contracts.

V. de P. Gerbereux

WORTHINGTON PUMP AND MACHINERY CORP. has appointed V. de P. Gerbereux manager of the Centrifugal Pump Sales Division. He succeeds A. H. Borchardt who was recently elected vice-president in charge of centrifugal, reciprocating and vertical turbine pump sales.

W. W. Campbell

LOCKPORT FELT CO., Newfane, N. Y., has named William W. Campbell, Jr., son of the late New York Senator and Mrs. William W. Campbell, to work with Bertram A. Audley, vice-president in charge of sales.

Mr. Campbell has been associated with the Lockport Felt Co. for 17 years, first in manufacturing and later in the selling and servicing of the company's product, Tenax felts. He has been a director of the company since 1938.

NEW LITERATURE

Solvay Process Div., Product Development Dept., Allied Chemical & Dye Corp. 40 Rector St., New York 6, N. Y. 80-p. book, "Properties and Reactions of Nitrosyl Chloride". Study of over 700 references and abstracts.

Babcock & Wilcox Tube Co. Beaver Falls, Pa. Free Bulletin TDC 141, "B & W Alloy Steel Tubing." Presents condensed data on microstructure, critical points, effect of alloy elements, forging, machining, welding and thermal treatment for 14 well-known alloy steels used in the production of tubular parts. Available gratis.

Bausch & Lomb Optical Co. Rochester 2, N. Y. Booklet, "Bausch & Lomb Dynoptic Labroscopes". Describes and illustrates the complete line of laboratory microscopes.

Bowser, Inc. Fort Wayne 2, Ind. Folder, "1001 Ways that Bowser and its Subsidiaries Serve You Every Day". Features Liquid Control Systems.

Chemonomics, Inc. 400 Madison Ave., New York 17, N. Y. Book, "Industrial Water Pollution; Survey of Legislation and Regulations." Presents the essential facts on pollution laws by states. Compiled by R. S. Aries & Associates. 142 pp. $5.

Electric Products Co. 1725 Clarkstone Rd., Cleveland 12, Ohio. Bulletin, B. 11-210. "Motor-Generator". Technical plus sales copy.

Eutectic Welding Alloys Corp. 40-40 172 St., Flushing, New York, N. Y. Folder, "Eutectic Instant Hardener." Tells how to harden steel tools, parts, edges, threads, dies, drills, etc., without heat treatments. Illustrated.

Exact Weight Scale Co. Columbus 8, Ohio. Circular, "Shadograph Scales". Details with specifications and illustrations.

Flash-Stone Co., Inc. 30 E. Rittenhouse St., Philadelphia 44, Pa. Booklet, "Why Engineer an Industrial Floor?". Facts concerning the task of installation, durability and cost.

Gates Engineering Co. New Castle, Dela. Catalog, "Gaco Rubber-lined Pipe Joint System". Includes engineer reference tables.

Indamer Corp. 11 West 42nd. St., New York 18, N. Y. Booklet, "Vibax Isometric and Dimetric Drafting Machine". Technical copy fully illustrated.

Machinery & Allied Products Inst. 1236 20th St. N. W. Washington 6, D. C. Bulletin, "Price Control Analysis of OPS Memo on Capital Goods Prices". Aims to achieve a wider understanding of the characteristics of capital goods and the problems implicit in price control of these industries.

Metallizing Engineering Co., Inc. 38-14 30th St., Long Island City 1, N. Y. Bulletin, "Metco News." Vol.

AMERICAN PAPER AND PULP ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	July 7	July 14	July 21	July 28	Aug. 4*
1951	62.6	94.6	99.3	99.5r	100.7
	July 8	July 15	July 22	July 29	Aug. 5
1950	51.8	92.9	96.6	99.9	99.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	92.6	95.6	96.7	97.4	94.4	97.7	85.3	99.8	96.1	101.0	99.6	91.2	81.8
1951	99.3	101.3	101.9	102.8	102.5‡	100.2‡	89.1‡						

‡ Preliminary.
r Revised.
* Weekly capacity base increased by 70 tons.

COMPARATIVE YEARLY SUMMARIES

	1944	1945	1946	1947	1948	1949	1950	1951
Year to Date	87.6	88.1	99.6	103.6	97.6	85.4	94.6	99.9
Year Average	88.1	89.4	101.1	104.3	96.2	88.6	93.8	

PAPERBOARD OPERATING RATIOS†

	July 7	July 14	July 21	July 28	Aug. 4
1951	62	83	94	97	94
	July 8	July 15	July 22	July 29	Aug. 5
1950	55	82	95	96	98

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	88	92	91	92	91	94	82	100	96	102	101	93	94
1951	102	105	104	105	104	103	84						

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

Note: The chart shows the ratio through December 1950 on the basis of 6-day capacity. Beginning with January 1950 the ratio is shown on the new basis of normal 6 and 7-day capacities by the colored line.

Paperboard operating ratios continue on the basis of a 6-day week.

† Per cents of operation based on "inch-hours" reported to the National Paperboard Association.

5, No. 9. (Briefs From Industry on Proven Applications of Metallizing and Recommended Methods.) Features "Stretching Your M. & O. S. Dollars With Metallizing".

Metron Instrument Co. 432 Lincoln St., Denver 9, Colo. Technical Data Sheet No. 42R. Describes Multiple head, single range, fixed installation tachometer indicators for monitoring speeds of many remotely located machines from one convenient location.

Minneapolis - Honeywell Regulator Co. Wayne and Windrim Aves. Philadelphia 44, Pa. Instrumentation Data Sheet No. 2.942a. "Remote Manual Control Valve Operation Aids in Pulp and Paper Processing"; Instrumentation Data Sheet No. 2.9-41a, "Pulping and Refining Instrumentation"; Instrumentation Data Sheet No. 2.9-17a, "Better Lime at Less Cost Through Centralized Rotary Kiln Control"; Instrumentation Data Sheet No. 2.7-1, "Columbia Hydraulic Presses Offer Smooth Action—High Efficiency—Increased Production".

Nickel Information Service, International Nickel Co., Inc. 67 Wall St., New York 5, N. Y. Bulletin, "Nickel Alloyed Cast Irons". Guide to the selection of engineering irons. Presents many valuable characteristics and illustrates their broad acceptance throughout industry.

Joseph T. Ryerson & Son, Inc. Box 8000-a, Chicago 80, Ill. Bulletin, "Ryerson Threaded Bar Service". Data on size range, lengths, kind of threads, bending and types and finishes of steel bars that are furnished threaded. Illustrated.

Foster D. Snell, Inc. 29 West 15th St., New York 11, N. Y. Brochure, "Elastomers and Plastomers". Sales copy on Snell Service in the polymer field.

OBITUARIES

William Jennings Baker, 50, chief of research and acting head of the Oregon Forest Products laboratory at Oregon State College, died August 10. A native of Bonner, Mont., he was a graduate of Oregon State. He was at Michigan State College from 1936 to 1941, when he joined the United States Forest Products laboratory at Madison, Wis., as a technologist. He returned to Oregon State in 1947.

Allen J. Fritz, 71, for 25 years machine shop superintendent of Ryther and Pringle Co., died in his sleep on August 7.

After learning the machinist trade at the Carthage Machine Co., he worked in paper mill machine shops in the Carthage, N. Y. area where he became classified as an expert on paper machine building and repair. In 1919, he was hired by the Ryther and Pringle Co. as machine shop superintendent, a position he held until 1944, when he was employed by the St. Regis Paper Co. He retired in 1949.

Fred A. Purchas, 78, founder and president of two paper box manufacturing firms in Cortland County, N. Y., died August 4 in a Syracuse hospital where he underwent a major operation about a month ago. Mr. Purchas operated the McGraw Box Co. and the Central Paper Box Co., both of McGraw, N. Y. He previously had been associated with the Simplex Paper Box Corp. in Lancaster, Pa. and the Earlville Paper Box Co.

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Modern Recovery Methods, designed and engineered by Ferguson, will stop profit leaks by turning WASTE into ASSETS.
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STAINLESS STEEL CASTINGS
FOR ALL EQUIPMENT EXPOSED TO CORROSION BY SULPHITE ACIDS OR OTHER CORROSIVE AGENTS
MICHIGAN STEEL CASTING CO.
DETROIT 7, MICHIGAN

CLEARING HOUSE

HELP WANTED

MEN WANTED—POSITIONS OPEN

We can place—production manager, Cylinder board mill, salary $10,000-$12,000; chemists for board mill; chemical engineer for research work; chemist experienced in rag paper mills.

Designers and draftsmen; mechanical and plant engineers; master mechanics; executive power plant engineer; salesmen for folding boxes and for paper mill equipment; tour bosses, Yankee, Cylinder and Fourdrinier machines; beater engineers; machine tenders and back tenders; asst. chief engineer.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the pulp and paper mills.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston 8, Mass.
SPECIALISTS IN PLACING PULP AND PAPER MILL EXECUTIVES A-17

MILL MANAGER

PAPER BOARD: The opportunity of a life time for live-wire executive, qualified to take complete charge of our single machine mill in the Mid-West, producing 60 tons paper board daily.

Our fast growing organization needs a top-notch manager, who knows paper making thoroughly, who has a record of proven ability and who can translate his knowledge and experience into a smooth-running, efficient mill operation.

He must be a real administrator capable of commanding the respect of, and handling, labor and key personnel. He must be able to assume immediate over-all responsibility for the production of quality board.

The right man will receive excellent compensation and an extraordinary chance for self-development and secure future.

Write us in confidence, giving full details as to your past experience and personal qualifications in first letter. Reply to box 51-425 c/o Paper Trade Journal.

A-24

TOUR BOSS WANTED

Must be mechanically inclined for cylinder paper machine. Write giving full particulars of background and salary expected. Box 51-431 c/o Paper Trade Journal. B-7

MACHINE TENDER WANTED

for cylinder machine. Must be experienced. Excellent working conditions. Apply Box 51-432 c/o Paper Trade Journal. B-7

HELP WANTED

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115 State St., Springfield 3, Mass.

Personnel Consultants

Confidential placement service for employers and employes in the pulp and paper industries and allied trades.
Domestic Foreign.
A-17

WORKING PAPER MILL MECHANIC

Must have previous experience on cylinder machine. Good opportunity for right man. Apply Box 51-430 c/o Paper Trade Journal. B-7

We have openings for:
1. Resident Engineer on a large paper mill expansion in the south. Must know pulp and paper mills.
2. Structural, mechanical and process and electrical engineers, designers and draftsmen for power plant and paper mill work, location, southern Michigan.

Salaries from $4,000 to $12,000. Write immediately to Box 51-433 care Paper Trade Journal, giving educational and experience record and personal data. A-17

SALES ENGINEER

Mechanical Engineer with pulp mill experience, preferably sulphate, wanted by well-established machinery firm. Opportunity for advancement. Address Box 51-424 care Paper Trade Journal. A-17

Wanted: Man 40-50 yrs. old, experienced in production and management of paper converting business; one who can provide additional machinery or capital for paper converting in southern coastal city. Present corporation 25 yrs. old; well-rated; owns one-story modern plant of 10,000 sq. ft. and fine dwellings in residential section. Please reply to Box No. 51-422 Paper Trade Journal. A-17

ASSISTANT MILL MANAGER

Opening available for the position of Assistant Mill Manager in large Eastern Canadian Newsprint Mill. Applicants must have proven executive and operating ability and be capable of assuming charge of all mill operations. Excellent opportunity for advancement to higher executive position with sound progressive company. Housing in Company townsite.

Age requirements 28 to 35 years.

Applicants please give complete details of experience and personal history. All replies confidential.

Box No. 51-401 care Paper Trade Journal. A-31

HELP WANTED

WANTED
SPARE MACHINE TENDER

Board Mill in New England has an opening for an energetic "Cylinder Board Machine Tender" who will act as Spare and also do other important work.

We consider this a good opportunity for the right man.

If you are available, write Box 51-408 Paper Trade Journal giving experience, references and age. A-24

WASHINGTON REPRESENTATIVE

and Staff Executive. Successful record of accomplishment in Washington, and in Sales and Administrative functions. Pulp, Paper, Specialties. Energetic and versatile. Now employed. Seeking permanent connection. Address Box 51-413 care Paper Trade Journal. A-24

SALARIED POSITIONS $3,500 to $35,000. We offer the original personal employment service (established 41 years). Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars. R. W. BIXBY, INC. —117 Dun Bldg., Buffalo, 2, N. Y. TF

WANTED — Machine Tenders and Back Tenders for corrugating medium and liner mill. Fourdrinier and cylinder machines. Located in Western Pennsylvania; good working conditions; pleasant surroundings and very good labor relations. Call collect—Tarentum 1470. TARENTUM PRODUCTS CORPORATION, Tarentum, Pa. TF

WORKING SUPERINTENDENT for small fast growing Eastern mill making lightweight specialties. Cylinder machine experience essential. State qualifications and salary expected. Address Box 51-87 care Paper Trade Journal. TF

TOUR BOSS for a high grade Board Mill located in the East. Must be able to handle men and get results. State experience and salary expected. Address Box 51-389 care Paper Trade Journal. A-17

WANTED—TOUR BOSS for one machine mill, in the Mid-West, manufacturing Jute Test Liner, Set-up and Folding Boxboards. Must be experienced and able to handle help. Reply to Box 51-406 care Paper Trade Journal. A-17

WANTED—TOUR BOSS for folding and set-up box board mill in the East. Address Box 51-399 care Paper Trade Journal. A-17

TOUR BOSS for Fine Paper Mill; also Machine Tenders for mill located in Eastern part of New York State. Address Box 51-426 care Paper Trade Journal. A-31

RATES FOR CLEARING HOUSE ADVERTISING

HELP WANTED—10c a word. Double rate for heavy face type. Minimum charge $3.50.

SITUATIONS WANTED—10c a word, double rate for heavy face type. Minimum charge $3.50. If repeated ½ rate will be charged for each consecutive repetition.

FOR SALE—10c a word. Double rate for heavy face type. Minimum charge $3.50.

WANTED—10c a word. Double rate for heavy face type. Minimum charge $3.50.

OPPORTUNITIES—10c a word. Double rate for heavy face type. Minimum charge $3.50.

Classified advertising space may also be purchased at $5.00 per single column inch. All classified advertisements are payable in advance. If box number is used—70 cents additional.

Address replies to advertisements appearing under Box Numbers in care of PAPER TRADE JOURNAL, 15 Van. 47th Street, New York 36, N. Y.

HELP WANTED

WANTED—Young Chemical Engineer with some experience in pulp and paper manufacture for important research in pulping. Position may lead to new large industrial development. Give full details education, experience, personal data. Salary commensurate with experience. Address Box 51-414 care Paper Trade Journal. A-24

WANTED—Thoroughly experienced Millwright Mechanic in three machine paper mill on Pacific Coast. Replies to Box 51-403 care Paper Trade Journal. A-17

TOUR BOSS with experience in Cylinder Machines producing various boards. Rotating shifts, steady employment. Mill in Massachusetts. In reply give full details including salary required. Address Box 51-410 care Paper Trade Journal. A-24

SULPHITE SUPERINTENDENT WANTED—One qualified if possible to handle Chemi-Pulp Hot Acid System, also Semi-Chemical pulps. Vacancy due to death of superintendent. Groveton Papers Company, Groveton, N. H. A-17

SITUATIONS WANTED

EXECUTIVE ACCOUNTANT COMPTROLLER

Capable, cost minded administrative executive, age 40, available immediately. Fully experienced in multi-plant paperboard, folding carton and printing industry. Box 51-197, Paper Trade Journal. B-7

SUPERINTENDENT THIRTY YEARS OF PRACTICAL EXPERIENCE MANUFACTURING HIGHEST GRADES light and heavy weight papers on modern high speed Cylinder and Fourdrinier machines folding box board, kraft, book and bond specialties from sulphite and sulphate, groundwood, de-inked papers. Can get quality and production. Best of references. Address Box 51-413 care of Paper Trade Journal. B-7

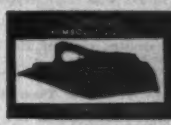
SITUATIONS WANTED

SUPERINTENDENT or PRODUCTION ENGINEER—A practical Paper Maker with engineering background with ability to upgrade and increase production. Accustomed to handling modern high speed cylinder paper machines. Address Box 51-394 care Paper Trade Journal. A-17

EXECUTIVE—Middle aged—wealth of experience on high grade rag and sulphite papers. Good educational background. Has also had considerable office experience including purchasing. Address Box 51-392 care Paper Trade Journal. A-17

BOARD MILL EXECUTIVE—Has built and remodeled board mills. Middle aged. Several years with engineering firm on Pacific Coast. Knows office practice. A thorough going board man, who knows his business. Address Box 51-393 care Paper Trade Journal. A-17

PLANT MANAGER—Paper and Board and their conversion; wants challenging opportunity. Highly successful in organization; administration; labor relations and high level production. Presently employed. Address Box 51-43 care Paper Trade Journal. A-31



ROSS PAPER MACHINERY CO

MACHINERY WANTED FOR OUTRIGHT PURCHASE

Paper Machines, Pulp and Paper Mill Machinery and Converting Equipment.

BEATERS
1—Diffs 750 lb. Iron Tub. Roll 44" face x 55" diameter.
1—Downingtown 1000 lb. Iron Tub. New roll 48" face x 49" diameter.

BELTING—NEW
42 feet 9" 10 ply Goodyear Rubber Duflex.
100 feet 8" 4 ply Oliver Duck Transmission belt.

CALENDER ROLLS
16 Chilled Iron Rolls—Assorted sizes.

CALENDER STACKS
1—6 roll—62".
1—6 roll—62". All rolls bored for steam.
1—Labelle 8 roll 124" Calender Stack, with doctors and drives.
1—Farrel Birmingham 110" Calender Stack with doctors. 2 rolls bored for steam.
1—Black-Clawson 86" 9 roll with doctors, bears and drives. 3 roll bored for steam.

COMBINING MACHINE
1—Black Clawson 54" Combining Machine with 4—48" diameter and 1—54" diameter Dryers. Motor, pumps, tanks, etc. Complete.

CONVEYOR
1—18½ ft. long x 24" wide—with motor.

CYLINDER MOLDS
1—154" face x 38" diameter, with stainless steel shafts.

DRYERS
2—124" face x 48" diameter.
1—77" face x 48" diameter—with gear.
1—120" face x 10" diameter—Baby Dryer.
1—60" face x 30" diameter.
1—102" face x 48" diameter, with bearings.
2—100" face x 48" diameter—with gears and bearings.
2—110" face x 42" diameter with bearings and gears.
1—17" face x 48" diameter.
1—100" face x 42" diameter Creping Dryer.
4—42" face x 36" diameter, with frames, gears and bearings.
10—60" face x 48" diameter, with gears, bearings and steam joints.

EXTRACTOR ROLLS
1—Downingtown Extractor Roll 128" face x 24" diameter. Anti friction bearings.

FILTER PRESS
1—New Sperry filter press, size 12, type 41.

FILTERS
1—Oliver Vacuum Filters. Cylinder 10' face x 5'6" diameter. Steel vat. 1500 GPM capacity.
1—Oliver Vacuum Filter. Cylinder 5' face x 5' 6" diameter. Iron and vat.

FLAT SCREENS
2—6 plate Sandy Hill Roller Shoe with scrapers.
1—Harmon 12 plate.
1—Sandy Hill 12 plate roller shoe.
1—Bagley & Sewall 8 plate, with scrapers and plates.

HYDRAULIC PRESS
1—Thorne 200 ton. Steam plates, 60"x60" with pump.

JORDANS
1—20 Niagal, for motor drive.
1—Jones Majestic with base and couplings—
1—#72 Asenbrice with base and couplings.
1—Jones Majestic. Stainless Steel Fitted.

MOTORS
1—Allis Chalmers 30 h.p. 440 v. 900 r.p.m.
1—Allis Chalmers 30 h.p. 440 v. 900 r.p.m.
35 others 440 v. motors from 2 h.p. to 75 h.p.

PULP EQUIPMENT
1—Mills & Merritt 217 Pulpwood chipper.
1—Bird ball bearing Pulp Screen. Practically new. Used 6 months.
4—Pfaudler Ball Bearing Pulp Screens—50 ton capacity.

PULPERS
2—82 Lamson.

PUMPS
44—Centrifugal Pumps, open & closed impellers. Direct connected or Belt Driven. Extensive lines for motor. Assorted capacities and heads. Most used less than one year. Also new Goulds Pumps.

REDUCERS
1—Link Belt 40 h.p. Ratio 2.5-1, 900 r.p.m.-227 r.p.m.

ROLLS—PRESS, COUCH, etc.
22—Press rolls, brass and rubber covered.
14—Couch rolls, brass and rubber covered.
250—Brass and steel carrying rolls.

ROTARY SCREENS
1—42A Bird, fully rebuilt with new vats, plates, new motor-mounted drive.
1—#2 Bird—stainless steel vat.

SAVEALLS
1—Sidney, Vacuum type, cylinder 120" face x 60" diameter, with steel vat.

SCREW PRESSES
1—Valley Voith Screw Press Size 2.

SHEETERS
1—48" Kidder Reel Sheeter.
1—64" Dexter Sidney with 12 roll Back Stand.
1—Moore & White 91" with Erie Layboy and 10 roll backstand.

SHREDDERS
1—Asbrinck 22" Hammermill, anti-friction bearings.
1—Lindsay 30½" Knives—7 knife rotor—3 knife bed plate. Ball bearing.

SLITTERS AND WINDERS
1—Beloit 120" Paper Machine Slitter and Rewinder—42" rewind.
1—Hudson Sharp 60" Wax roll slitter and rewinder.
1—Langston 40" sheet cut with motor and 39 sets of slitters.
1—Cameron 42" Model 6.
1—Stead 42".

STEAM TURBINES
1—De Laval 200 h.p. initial pressure 140 p.s.i. Exhaust pressure 30 p.s.i. Complete with gear reducer.
1—De Laval Variable speed—275 h.p. at 120 gauge and 30 p.s.i. exhaust. Complete with gear reducer.

STOCK PUMPS
1—Shartle 10 x 20 Single Plunger Pump.

STOCK REGULATORS
3—Merritt Stock Regulators.

SUCTION PRESS ROLLS
1—Shadeauy 87" drilled face x 14" diameter.

THICKENERS
1—Woods Thickener with anti friction bearing. Cylinder 40" diameter x 120" face.

TOILET TISSUE PERFORATOR
1—Paper Converting Machine Co. Model 101 automatic 81" Perforator, slitter and Winder —with three motors—ball bearing.

VACUUM PUMPS
4—Nash H-5 Vacuum Pumps
1—Nash 27-6.
1—Nash 23.
1—Nash 22.

WATER PINION UNIT
1—Valley Alternator Unit for water finish on paper—120" deckle.

WAXING MACHINES
1—64" Pfaudler complete from 1st off to single roll rewind section.
1—60" Special complete from 2 roll 1st off to single roll rewind.

WHY LIST YOUR EQUIPMENT? — WE WILL BUY IT.

FOR SALE

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74" Cameron type 8 model 10 Slitter.
73" Moore & White Rewinding Reel.
52" Cameron type 8 model 5 Slitter.
48" Kidder type CH Rotary Slitter.
30" Hobbs shear cut Slitter.
42" Moore & White Sheeter with Layboy.
49" Finley Sheeter with Hamblet single pile Layboy.
58" Finley Sheeter.
100" Dillon Sheeter with 10-roll Back-Stand.
36" Acme Automatic Power Paper Cutter.
#13 Industrial Paper Shredder.
NEW Hamblet Sheeters, any specification.
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For Sale. Shopping bag handle machine for making prefabricated bag handles. Machine manufactured by the Paper Converting Machine Company, Green Bay. Has been used only short time. Is adjustable so that either 9" or 7" handles can be made. Has gluing device which places glue on each side of the bag handle for delivery onto receiving chain, ready for bag insertion. Has double head stitcher. Capacity of the machine 2,000 handles per hour. Machine is in first-class condition, priced low. Also Smith and Winchester machine for manufacturing satchel bottom shopping and other style bags. Address Box 51-429 care Paper Trade Journal. A-31

MACHINE FOR SALE—One 200 h.p. G.E. Type I. Form K. Frame 17, Motor Ser. 3025617, 3/60/440/600 rpm with Std. shaft extension, 2 extra drippings for Moisture Proofing. Never used since rebuilt. Address Box 51-407 care Paper Trade Journal. A-17

PAPER COATING MACHINERY MANUFACTURERS — Waxing, Oiling, Carbon Laboratory Coating and Treating and Plat Room Measuring and Converting Machines. New improvement. THE MAYER MACHINE COMPANY, INC., 1313 Buffalo Road, Rochester, 11, N. Y. TF

FOR SALE—1—122" Heavy Duty Single Knife Horne Cutter, suitable for Board or Pulp. Address Box 51-275 care Paper Trade Journal. TF

FOR SALE—Hobbs 32" Shear Cut Slitter & Rewinder. Good condition. Complete with Mandrels, Clutch Drive Pulley, 36 pairs knives Holders, 12 extra knives. Address Box 51-427 care Paper Trade Journal. A-17

FOR SALE

Langston 84" type "B" Shear Cut Slitter and Rewinder, 50" Diameter, fine condition, immediate delivery. THEO. ADAMS, 111 W. Washington St., Chicago 2, Ill.
8-7

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1—20x24 Remington Reed Portograph with Dryer, various size trays, paper and other accessories.

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TRADE

WILL TRADE 13" Hudson-Sharp napkin folder for 17" Hudson-Sharp napkin folder. Please send particulars to Box 51-420 care Paper Trade Journal. A-17

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1—Jones iron tub high speed broke beater, 70" x 48" stainless steel, new 1943.
1—Noble & Wood iron tub, 66" x 52" R H, 3-10" bed plates, new roll installed 1940.

Calenders (Machine)

1—114" Bagley & Sewall 7 roll.
1—96" Lobdell 7 roll.
1—89" Farrel 7 roll.
1—80"; 1—68" and 1—56".

Calenders (Super)

1—106" 9 roll Norwood.
1—82" 9 roll Norwood.
1—72" 9 roll Holyoke.

Cutters (Sheet)

2—80" Hamblet single with layboy and 8 roll backstand, very good.
1—156" Duplex Hamblet.
1—130" Duplex Horne.
1—100" Duplex Dillon & N. & W.

Cutters (Ream)

1—54" 20th century Seybold.
2—72" Acme.
1—44" and 1—84" Smith & Winchester.

Dryers

2—8' x 184"
6—5' x 174"
1—6' x 103" Yankee.

Drives

1—9 unit complete Harland drive with M.G. set, used on 190" machine.
1—5 unit new Westinghouse drive with M.G. set, for use on 86" machine.
1—5 unit oil gear hydraulic drive.

Rolls (Press-Rubber Covered)

3—32" x 232"
1—24" x 180"
3—20" x 118"
4—16" x 66"

Rolls (Suction)

1—36" x 240"
1—30" x 166" Couch.
1—30" x 190" Press.

Slitters & Winders

1—208 Moore & White four drive.
1—190 No. 19 Cameron.
1—54 No. 10-Model 5A Cameron.

FRANK H. DAVIS COMPANY
175 Richdale Ave.
Cambridge 40, Mass.
A-17

FOR SALE

Cameron Slitters

1—42" Type 10-S.
1—52" and 1—58" Type 8-S.
1—62" Type 6.
1—42" Type 6.
1—32" Type 40-2A.
1—42" Type 40-1-AF.

OTHER SLITTERS

1—84" Langston Type B.—Rewinds 50" diameter rolls.
1—42" Meisel Shear Cut.
1—60" Hammerail Score Cut.
1—50" Langston Type A Shear Cut S & R.
1—42" Langston Center Wind Duplex Shear Cut Slitter and Rewinder.
1—32" Hobbs Shear Cut, double rewind slitter and rewinder.

POWER PAPER CUTTERS

9—Seybold, 44" & 54" 20th Century, 40" & 50" 10Z, 40" 6Z, 34", 44", 48" & 54" Holyoke.
3—Oswegos; 38", 44" and 57"; 1—Sheridan, 50"; 1—Dexter, 57"; 2-Acme, 32" and 42"; 1—S&W Under Cut 63".

MISCELLANEOUS MACHINES

3—Schultz Automatic Roll Machines. Take paper 12" to 34" wide. Roll lengths 12' to 150'.
1—96" Creping Machine. Has three 5' diameter dryers, complete unit.
1—64" Creping machine, complete with automatic Kohler system.
Several Die Presses, Seybold and Sheridan, various sizes.
1—Hudson-Sharp #4 special Tissue Paper Folder.
1—Complete Set Potdevin S.O.S. Bag Machines—Range ¼ to 25#'s.
1—Modern Clipper Bag Machine for cellophane and plioflim materials. Makes flat or gusset bags, single or duplex, range 1¼" to 9" in width, 3" to 27" in length.
1—New 24"-2 color, Roll to Roll Aniline Press.
1—48" Mayer Equalizer Waxing Machine. Type 40-EV. Two Coating Heads and three 16" diameter Cooling Drums.
1—84" Miami lo-type Waxing Machine, manufactured by Diltz Machine Works with 1 refrigerating unit size 4" x 4".
2—Potdevin Waxing Machines, 82" wide.
1—Paper Converting Machine Co.'s Model No. 215, three web, ¼ fold napkin machine with embossing attachment.
1—81" Hudson-Sharpe 50-B Facial Toilet Converter.
1—Lawtomatic Model "A" Toilet Roll Wrapper.
3—81" Dietz Toilet Paper Converters, suitable for standard and facial tissue.
2—Brand new 81" Dietz, very latest type, friction rewind combination toilet and towel roll convertors. Automatic counters and stop motions.
1—84" Dillon Duplex Rotary Sheet Cutter.
1—84" Moore & White Duplex Rotary Sheet Cutter.
1—42" Hobbs Embosser, with Vickers 20 ton hydraulic pressure attachment.
2—22 Lamson Pulpers.
1—58" Holyoke Roll to Roll Embosser, Heavy Type. Two extra new rolls, one steel and one paper.
1—45" Robinson Rotary Card Cuter.
1—110" Model 29 Hamblet Duplex Rotary Sheet Cutter, slitting attachment, Erie automatic layboy and twelve roll backstands.
1—74" Hamblet Duplex Rotary Sheet Cutter, slitting attachment, 8 roll backstands, Moore & White layboy, 15 HP Reliance Drive.
1—110" nine roll Holyoke Super Calender stack with AC motor equipment.
1—46" Holyoke, 6 Roll, Stack of Super Calenders.
1—Staudo, "Champion" folding and gluing machine.
1—60" Parry Liner, 11 roll type. New 1949. Never used.
2—Asphalt Laminating Machines, one 70" and one 88".
1—74" Waldron 3 stage combined roll and brush coating machine with J. O. Ross heating system.

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Telephone Lexington 2-5759 A-17

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A-24

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A-24

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WANTED

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WANTED—Brightwood Box Machine, Shredders, Evaporators, Generators and Boilers Slitters, Cutters, Hydraulic presses, Sheridan Presses, Dryers. Address Box 51-88 care Paper Trade Journal.

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WANTED

WANTED—W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters Hydraulic presses, Sheridan Presses, Dryers. Address Box 51-89 care Paper Trade Journal.

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WANTED—Good used 3 or 4 pocket grinders suitable for 32" x 54" stones. Address Box 51-423 care Paper Trade Journal.

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INTER-FOLD towelling machines wanted. Give full details as to make, age and location, etc. to Box 51-436 care Paper Trade Journal.

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Ross Engineering Corp., J. O.
Shartle Brothers Mch. Co.
Stephens-Adamson Mfg. Co.

CORES
Elixman Paper Co.
Smith & Winchester Mfg. Co
Sonoco Products Co.

CORROSION RESISTANT
Amercoat Corporation

COTTON LINTER
Alpha Cellulose Corp.
Railway Supply & Mfg. Co.

COTTON PULP
Alpha Cellulose Corp.

COUCH ROLLS
Beloit Iron Works

COUPLINGS
The Bagley & Sewall Company
Black Clawson Company
Farrel-Birmingham Co., Inc.
E. D. Jones & Sons Co.
Lovejoy Flexible Coupling Co.
Moore & White Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John

CRANES
Cleveland Crane & Engrg. Co
Whiting Corp.

CURL TESTER
Thwing-Albert Instrument Co

CUTTERS
The Bagley & Sewall Company
Beloit Iron Works
Black Clawson Company
Dilts Machine Works
Gibbs-Brower Company, Inc
Graphic Arts International Corp.
Thomas W. Hall Co.
Harris-Seybold Co.
Jagenberg-Werke Akt. Ges.
Moore & White Co.
Perkins & Son, Inc., B. F.
Rice Barton Corporation
The Sandy Hill Iron & Brass
Taylor, Stiles & Co. Works
The Smith & Winchester Mfg Co.

CYLINDER MOULDS
Manchester Machine Co
Rice Barton Corporation

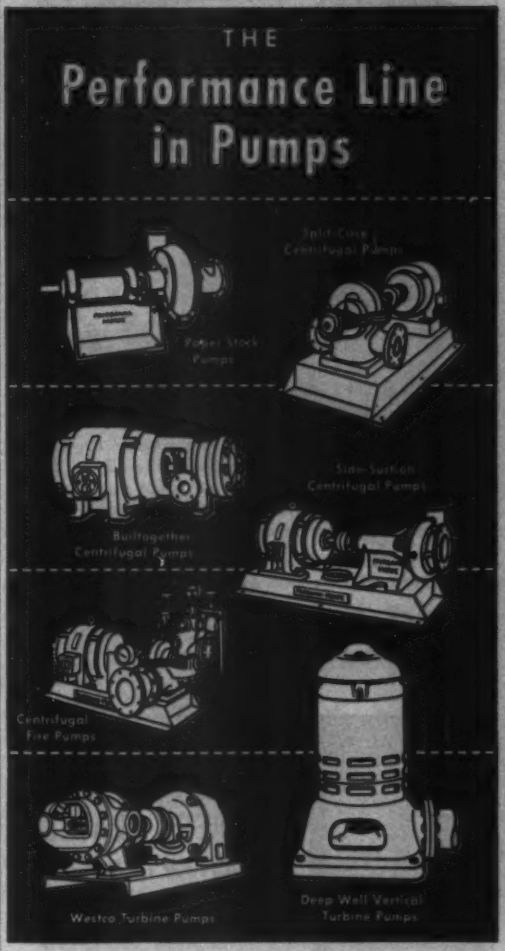
CYLINDERS
M. W. Jenkins Sons, Inc.

DAMPENERS
Perkins & Son, Inc., B. F
Valley Iron Works Co.

DECKLE WEBBING
Williams-Gray Co.

DEFIBRATORS
American Defibrator Co

DE-INKING
Dilts Machine Works
General Dyestuff Corp.
Kinsley Chemical Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.



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Kinsley Chemical Co.
Nopco Chemical Co.

De-MINERALIZING EQUIPMENT
Hungerford & Terry, Inc.
The Permutit Company

DEMULSIFIERS
Wyandotte Chemicals Corp., Michigan Alkali Div.

DENSOMETERS
Bunge Pulp & Paper Co.
W. & L. E. Gurley

DESIGN CONSTRUCTION
Rhasco Services

DETERGENTS
American Cyanamid Company, Industrial Chemicals Division
Calgon, Inc.
General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

DEWAXING CHEMICALS
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Nopco Chemical Co.

DIFFERENTIAL SCALES
Thwing-Albert Instrument Co.

DIGESTERS
Babcock & Wilcox Co.
Blaw Knox Company
Chicago Bridge & Iron Co.
Combustion Engineering-Superheater, Inc.
Lukenweld
Paper & Industrial Appliances
Pusey & Jones Corp.

DISPERSING AGENTS
Calgon, Inc.
General Dyestuff Corp.
Monsanto Chemical Company
National Aluminate Corp.
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

DOCTORS
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Bird Machine Company
Black Clawson Company
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Lobdell United Co.
Ledding Engineering Corp.
The Moore & White Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

DOCTOR BLADES
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Bird Machine Company
Ledding Engrg. Corp.
The Moore & White Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Simonds Saw & Steel Co.

DRIERS
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Black Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
Lukenweld
The Moore & White Co.
Murray Mfg. Co., D. J.
J. J. Ross Company
Reel-Ray Mfg. Co., Inc.
Rice Barton Corporation
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

DRILLED SUCTION COUCH ROLLS
Manchester Machine Co.

DRILLED SUCTION DRUM ROLLS
Manchester Machine Co.

DRIVES
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
The Bagley & Sewall Company
Beloit Iron Works
Bird Machine Co.
Black Clawson Company
Dilts Machine Works
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
Rice Barton Corporation
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Bros. Mch. Co.
Stephens-Adamson Mfg. Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

DRUM WINDERS
Manchester Machine Co.
Rice Barton Corporation

DRYER DRAINAGE
Stickle Steam Specialties Co.

DRYER ROLL PYROMETER
Thwing-Albert Instrument Co.

DUSTERS
Appleton Machine Co.
Downingtown Mfg. Co.
Frank W. Egan & Co.
M. W. Jenkins Sons, Inc.
E. D. Jones & Son Co.
Moore & White Co.
D. J. Murray Mfg. Co.
John Waldron Corp.

DUSTING BRUSHES
M. W. Jenkins Sons, Inc.

DYESTUFFS
American Cyanamid Company, Calco Chemical Div.
Bunge Pulp & Paper Co.
Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuffs Corp.
National Aniline Division, Allied Chemical & Dye Corp.

ELECTRIC HYGROMETER
Thwing-Albert Instrument Co.

EMBOSSING MACHINES
Dilts Machine Works
Egan, Frank W., & Co.
John Waldron Corp.

EMBOSSING ROLLS
The Appleton Machine Co.
Gibbs-Brower Company, Inc.
Holyoke Machine Co.
Northern Engraving & Mch. Co.
B. F. Perkins & Son, Inc.
John Waldron Corp.
Wheeler Roll Co.

EMULSIFIERS
General Dyestuff Corp.
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

ENZYMES
Rohm & Haas Co.
Vanderbilt Co., R. T.

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Gaulin-Birmingham Mfg. Co., Inc.
Murray, D. J., Mfg. Co.
Swenson Evaporator Co., Div. of Whiting Corp.

EXPANDERS
Mount Hope Machinery Co.

FANS
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B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.

FEEDERS
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Merrick Scale Mfg. Co.
The Permutit Company
Stephens-Adamson Mfg. Co.

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Asten-Hill Mfg. Co.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Morey Paper Mill Supply Co.
Shuler & Benninghofen
Waterbury Felt Co.
Waterbury, H., & Sons Co.
Williams-Gray Co.

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General Dyestuff Corp.
Nopco Chemical Co.

FELT CONDITIONERS
Bird Machine Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works

FELT GUIDES
Black Clawson Company
Frank W. Egan & Co.
Gilbert & Nash Co.
Moore & White Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

FILLERS
American Cyanamid Company, Industrial Chemicals Division
A. M. Meincke & Son, Inc.
Vanderbilt Co., R. T.
Wyandotte Chemicals Corp., Michigan Alkali Div.

FILTERS
Bird Machine Company
Holyoke Machine Co.
J. M. Huber Corp.
Hungerford & Terry, Inc.
Johnson Corp.
Moore & White Co.
L. O. Ross Engrg. Corp.
The Sandy Hill Iron & Brass Works
Walworth Company

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The Bagley & Sewall Company
Crane Company
Shartle Bros. Mch. Co.
Walworth Company

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Lovejoy Flexible Coupling Co.
John Waldron Corp.

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Norton Co.

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Rice Barton Corporation
The Sandy Hill Iron & Brass Works

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Elwell Parker Elec. Co.
Towmotor Corp.

FORMATION TESTERS
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Williams Apparatus Co., Inc.

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Black Clawson Company
Downingtown Mfg. Co.
The Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Williams Apparatus Co.

FURNACES
Hoeft Company, Inc.

GASKETS
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GEARS
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Black Clawson Company
De Laval Steam Turbine Co.
Downingtown Mfg. Co.
Frank W. Egan & Co.
Farrel-Birmingham Co.
E. D. Jones & Sons Co.
Moore & White Co.
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Smith & Winchester Mfg. Co.
Stroh Process Steel Co.
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Westinghouse Electric Corp.
Western Gear Works

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GRAVITY FILTERS
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Gibbs-Brower Company, Inc.
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Norton Company
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The Sandy Hill Iron & Brass Works

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Egan, Frank W., & Co.
Gilbert & Nash Co.
The Moore & White Co.
Mount Hope Machinery Co.
Rice Barton Corporation
John Waldron Corp.

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Egan, Frank W., & Co.
The Sandy Hill Iron & Brass Works

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General Electric Co.
D. J. Murray Mfg. Co.
Red-Ray Mfg. Co., Inc.
Ross Engineering Corp., L. O.
Stickle Steam Specialties Co.
Valley Iron Works Co.

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Nopco Chemical Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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B. F. Goodrich Chemical Co.

INDENTING MACHINES
Dilts Machine Works

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Towmotor Corp.

INKOMETER
Twing-Albert Instrument Co.

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Cambridge Instrument Co.
General Electric Company
W. & L. E. Gurley
B. F. Perkins & Son
Photovolt Corp.
Taylor Instrument Cos.
Testing Machines, Inc.
Twing-Albert Instrument Co.
Williams Apparatus Co.

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Beloit Iron Works
Johnson Corp.
Lovejoy Flexible Coupling Co.
Rice Barton Corporation
Shartle Bros. Mch. Co.
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Shartle Bros. Mch. Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

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Hamblet Machine Co.
Heppenstall Company
E. D. Jones & Sons Co.
The Moore & White Co.
Simonds Saw & Steel Co.
Taylor Stiles & Co.
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Egan, Frank W., & Co.
E. D. Jones & Sons Co.
Taylor Instrument Companies
Testing Machines, Inc.
Valley Iron Works Co.
John Waldron Corp.
Williams Apparatus Co., Inc.

LAMINATING MACHINES
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Dilts Machine Works
Egan, Frank W., & Co.
Rice Barton Corporation
John Waldron Corp.

LAY BOYS
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Gibbs-Brower Company, Inc.
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Moore & White Co.

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LUBRICANTS
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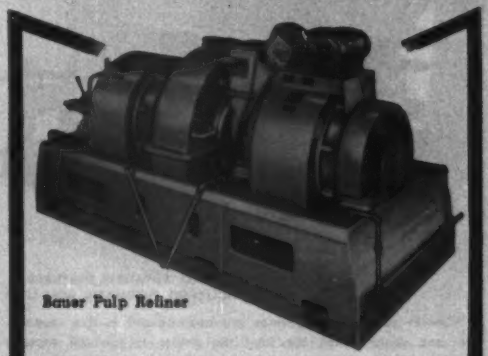

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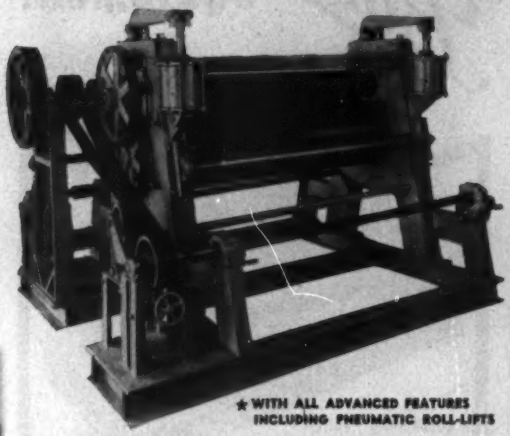

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Clark Equipment Company
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Manchester Machine Co.
Rice Barton Corporation

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Beloit Iron Works
Bagley & Sewall Co.
Black Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Lakeswald
Moore & White Co.
Pusey & Jones Corp.
Rice Barton Corporation
J. J. Ross Company
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Smith & Winchester Mfg. Co.

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E. D. Jones & Sons Co.
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The Sandy Hill Iron & Brass Works
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Thomas W. Hall Co.
Hudson Sharp Machine Co.
Jagenberg-Werke Akt. Ges.
Langston Co., Samuel M.

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Black Clawson Company
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Gibbs-Brower Company, Inc.
Murray, D. J., Mfg. Co.
Moore & White Co.
Pusdevin Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

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Crane Company
Grinnell Company
Michigan Steel Casting Co.
National Tube Co.
Walworth Company

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Crane Company
Grinnell Company
Michigan Steel Casting Co.
Walworth Co.

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Monsanto Chemical Company
National Aluminate Corp.
Nopco Chemical Co.
Rohm & Haas Co.

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Industrial Chemicals Division
Aktivin Division, Heyden Chemical Corp.
B. F. Goodrich Chemical Co.
Naugatuck Chemical
Division of U. S. Rubber Co.
Nopco Chemical Co.

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Lukenweld Division
Lukens Steel Company
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E. D. Jones & Sons Co.
Shartle Brothers Machine Co.

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Manchester Machine Co.
Rice Barton Corporation

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Thwing-Albert Instrument Co.

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General Dyestuff Corp.

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Beloit Iron Works
Rice Barton Corporation

PRESSURE FILTERS
Holyoke Machine Co.

PRESSURE VESSELS
Chicago Bridge & Iron Co.
Combustion Engineering-Superheater, Inc.

PRESSES
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Dietz Machine Works
Ferrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson-Sharp Mch. Co.
The Moore & White Co.
Pusdevin Machine Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.
Waldron Corp., John
H. G. Weber & Co., Inc.
Williams Apparatus Co.

PULLEYS
Lovejoy Flexible Coupling Co.
Rice Barton Corporation

PULP CLASSIFIER
The Bauer Bros. Co.
Thwing-Albert Instrument Co.

PULP CLEANERS
Nichols Engrg. & Research Corp.

PULP STOCK VALVES
Crane Company
Record Ptg. & Mach. Co.
Shartle Brothers Machine Co.

PULPERS
Agnew, Inc.
Bauer Brothers Co.
Dilts Machine Works
E. D. Jones & Sons Co.
Morden Machines Co.
Shartle Brothers Machine Co.

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Brown Company
Bunge Pulp & Paper Co.
Gottgmann & Co., Inc.
Lyddon & Co. (America), Inc
Parsons & Whittemore, Inc.
Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.
Rentgwoche Co., Ltd.

PULPSTONES
Norton Company

PULP TESTERS
Paper and Pulp Testing Laboratories
Williams Apparatus Co., Inc.

PULVERIZING MILLS
Combustion Engineering-Superheater, Inc.
F. L. Smidth & Co.

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Beloit Iron Works
Black Clawson Company
Buffalo Pumps, Inc.
Byron Jackson Co.
DeLaval Steam Turbine Co.
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Gibbs-Brower Company, Inc.
Johnson Corp.
Moore & White Co.
Nash Engineering Co.
Roots Connersville Blower Corp.
T. J. Rose Company
Rose Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

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Red-Ray Mfg. Co., Inc.

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Rohm & Haas Co.

RAG CUTTERS
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R. F. Perkins & Son, Inc.
Taylor-Stiles & Co.

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Chicago Bridge & Iron Co.
Combustion Engineering-Superheater, Inc.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones Corp.
Rose Engineering Corp., J. O.
Valley Iron Works Co.

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The Appleton Machine Co
The Bagley & Sewall Company
Beloit Iron Works
Black Clawson Company
Dilts Machine Works (Kohler Systems)
Egan, Frank W., & Co.
Downingtown Mfg. Co.
Hudson-Sharp Mch. Co.
Moore & White Co.
Rice Barton Corporation
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

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Appleton Machine Co.
Baker Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Morden Machines Co.
Murray, D. J., Mfg. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sprout Waldron & Co., Inc.
Sutherland Rubber Corp.
Valley Iron Works

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AFMEW, Inc.
Allis-Chalmers Mfg. Co.
Bird Machine Company
General Electric Co.
Johnson Corp.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies

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American Cyanamid Company, Plastics & Resins Division
The Dow Chemical Company
B. F. Goodrich Chemical Co.
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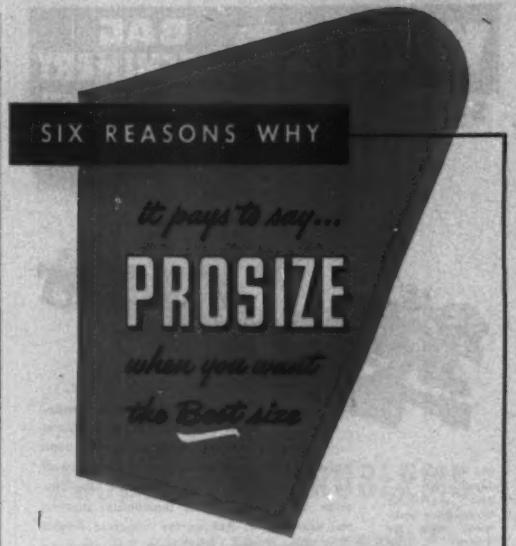

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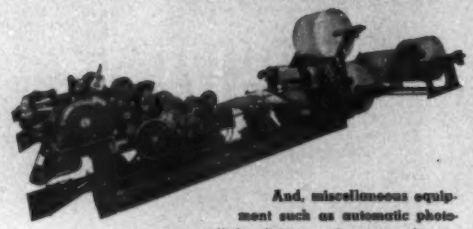

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McDonald-Thompson Company

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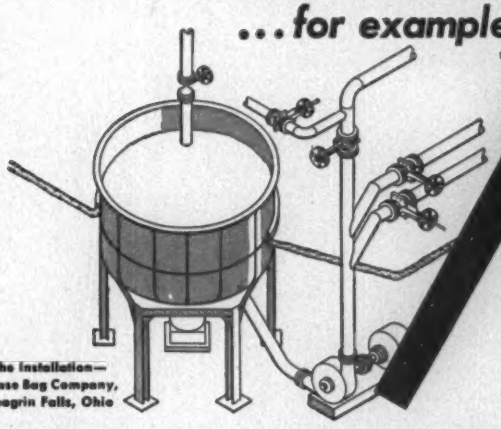
...for example



The Installation—
Chase Bag Company,
Chagrin Falls, Ohio

PROBLEM: To find a satisfactory replacement for valves in pulper outlet lines, causing frequent and costly shutdowns for clean-out of pulp stock trapped in valves.

WORKING CONDITIONS: Consistency of stock normally handled about 6%. Pulper operation continuous. Water temperature approximately 140 deg. F. Valves operated infrequently.

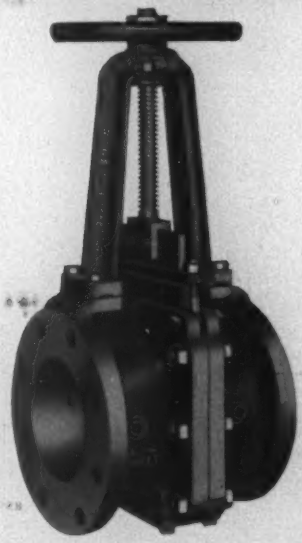
SOLUTION TO PROBLEM: Crane No. 1425 Non-clogging, Self-cleaning, Bonnet-less Pulp Stock Valves, featuring the patented *combing-and-shearing action* disc and seating design. Knife-edge disc shears through combed fibers to seat easily against lead stop.

RESULTS: In more than 5 years' service, Crane Valves have not required a single shutdown for cleanout. Clogging completely eliminated. Only routine maintenance given to valves.

Another typical case history demonstrating how Crane Quality Valves give greater satisfaction at low ultimate cost. And why . . . More Crane Valves are used than any other make!

Insist on Dependable Quality

CRANE VALVES



No. 1425 Crane Iron Body Pulp Stock Valve. Get literature on this line from your local Crane Branch or Crane Wholesaler.

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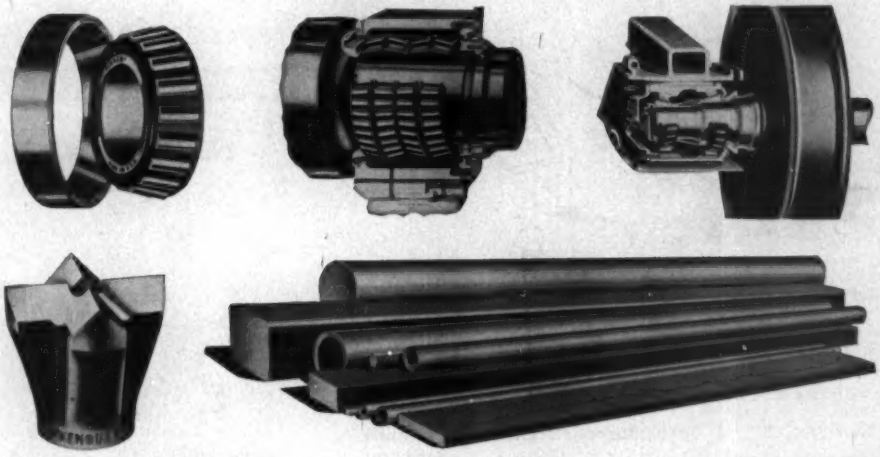

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